UNIVERSITY OF GLOUCESTERSHIRE
at Cheltenham and Gloucester

Pursuit of individual ambidexterity by middle managers and their psychological well-being

Andrea Sara Moccia

First supervisor: Dr David Dawson
Second supervisor: Dr Tamer Darwish

A thesis submitted to
The University of Gloucestershire
in accordance with the requirements of
the degree of Doctor of Philosophy (PhD)
in the Faculty of Business, Education & Professional Studies

December 2022

Abstract

Companies increasingly demand ambidexterity from their employees, the ability to flexibly switch between exploitation (use and refine existing competencies) and exploration (explore new opportunities and create new knowledge) (Holmqvist & Spicer, 2012). From a job design perspective, ambidexterity is seen as a valuable form of job enrichment that can increase employee creativity, innovation and motivation (T. J. M. Mom et al., 2018; Parker, 2014). However, studies have also indicated that the demand for ambidexterity may lead to frustration, anger and stress among employees (Karhu, 2017; T. Keller & Weibler, 2015; Laureiro-Martínez, Brusoni, & Zollo, 2010). Despite these warnings, the possible negative impact on employee well-being has received little attention in the literature (Agnihotri et al., 2017; Caniëls & Veld, 2016; Tempelaar & Rosenkranz, 2017). This thesis addresses this research gap. Taking into account the moderating effect of the Big Five personality traits as well as the team climate, the influence of the demand for ambidexterity on on middle managers' well-being is investigated.

The impact of the demand for ambidexterity on well-being was investigated using the data from an anonymous online survey of administrative middle managers from different divisions and professions of Swiss Post. The analysis of data from the 1,657 participants suggests that the demand for ambidexterity does not generally pose a particular threat to middle managers' well-being. However, the results also suggest that the demand for ambidexterity does not have a positive impact on psychological well-being. It was also found that personality, in contrast to team climate, has a significant moderating effect. Concretely, it was found that extraversion positively influences the impact of the demand for ambidexterity on middle managers' well-being, while the personality traits conscientiousness and neuroticism have a negative influence.

This research provides a significant contribution by closing a long-known research gap. The findings on the role of personality traits further contribute to the advancement of the individual ambidexterity theory. The research provides equally valuable insights for practice. Employers have been in the dark about the effect of the demand for ambidexterity among their middle managers. The findings from this research inform employers that by introducing ambidextrous jobs, they are not generally putting their middle managers at significant risk, nor are they promoting their well-being. Furthermore, the finding of this research that the two personality traits conscientiousness and neuroticism tend to have a negative impact on psychological well-being when ambidexterity is demanded, and extraversion does the opposite is of great importance for employers. Since psychological assessments based on the five-factor model of personality are a common tool in the recruitment process, employers are now able to systematically select middle managers for ambidextrous jobs.

Declaration of Original Content

I declare that the work in this assessment was carried out in accordance with the regulations of the University of Gloucestershire and is original except where indicated by specific reference in the text. No part of the assessment has been submitted as part of any other academic award.
Any views expressed in this assessment are those of the author and in no way represent those of the University.

Signed: Andrea Moccia

Date: 11/12/2022

doi: 10.46289/L4H6J8S8

Dedication

To my husband and soulmate Renato. Thank you for your unconditional love.

Acknowledgments

First of all, my heartfelt thanks go to my two supervisors Dr David Dawson and Dr Tamer Darwish. With his inspiring inputs, David has always pushed me to deepen and sharpen my ideas. His critical and challenging comments have immensely enhanced the quality and outcomes of this dissertation. Tamer's support was not only priceless regarding the statistics, but thanks to his impressive experience he had a solution for every problem I encountered. When I was at a point where I felt lost and about to give up - and there was more than one such moment during my PhD journey - he was always the one who motivated me and got me back on track. I am incredibly grateful to have had with David and Tamer two supervisors who gave me the freedom to find my own way as a researcher, but at the same time always had an open ear and provided incredible support.

I would like to further thank my former employer, Swiss Post, which with its size and job diversity was the ideal research site for this dissertation. I am especially grateful to my former team colleagues from the Business Development Department who have significantly influenced this research. With their honest insights into their work and their emotions, they have provided the inspiration for this dissertation. This research would not have been possible without the support of numerous other individuals at Swiss Post who acted as translators, testers and interviewees, the market research department, which supported me in the approval and administration of the survey, and the personnel controlling department, which assisted me in the sampling process. I am especially grateful to the incredible 1,658 participants in the field test and the 99 participants in the pilot test who took the time to carefully and completely fill out the comprehensive questionnaire. The support and the enormous interest in my research that I have received have been a great motivation and have impressed me immensely.

Last but not least, I would like to thank my husband Renato for all his understanding and patience during the long time of my PhD journey. As in my days as a top athlete, he never pushed me, never stopped me, but as my tower of strength kept me grounded.

There are numerous individuals who have supported and inspired me during my PhD journey who I have not explicitly mentioned above. They deserve my thanks, as do the fellow researchers who are interested in my research and will hopefully continue to employ my findings in their own research.

Table of Contents

List of Figures

List of Tables

Glossary

The following glossary lists the most important topic-related terms and definitions as understood within the present research.

Big Five	The widely recognised five main dimensions of personality, which are openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism.
Exploitation	The extension and improvement of existing capabilities.
Exploration	The development of completely new capabilities and opportunities.
Five Factor Model (FFM)	A widely recognised model in personality psychology for the taxonomy of the Big Five. It is also often referred to as OCEAN model.
Individual ambidexterity	Considered at the action level, simultaneous engagement in exploitative and explorative tasks by one individual. Considered on the cognitive level, these are two different brain activities that cannot be carried out simultaneously but rather are performed in rapid alternation. Individual ambidexterity is an important feature of contextual ambidexterity.
Organisational ambidexterity	The ability of organisations to simultaneously optimise their existing business (exploitation) and develop their future business (exploration).
Sequential ambidexterity	The temporal alternation between exploitation and exploration. This is not a true type of ambidexterity, which is defined as the simultaneous engagement in exploitation and exploration.
Structural ambidexterity	An implementation form of ambidexterity in which exploitation and exploration are assigned to different business units. Typically, the exploitation units are large and highly centralised, with narrow cultures and processes. Exploration units, on the other hand, are small and decentralised, with loose cultures and processes.
Survalyzer	A tool developed and distributed by the Swiss company Survalyzer AG for conducting online surveys. The version of Survalizer used for the present research was specially adapted by the software supplier according to the needs of Swiss Post and extended with special functions, for example, for sampling within the company and for the authorisation of internal surveys via workflow.

Abbreviations

AVE	Average Variance Extracted. A statistical measure of the variance captured by a construct relative to the variance caused by measurement error.
CFA	Confirmatory factor analysis. A multivariate statistical procedure to measure how well the measured variables represent the number of constructs.
CR	Composite reliability. A statistical measure of the internal consistency of a construct.
EFA	Exploratory factor analysis. A multivariate statistical procedure to determine the underlying factor structure of a construct.
PET	Professional education and training. In Switzerland's educational system, this is the tertiary level, which is open to all professionally qualified individuals.
SEM	Structural equation modelling. A set of statistical procedures for measuring and analysing the relationships between observed and latent variables.
SLQ	Source Language Questionnaire. In multilingual studies, this questionnaire, which is usually in English, is the starting point for the translations.
TCI	Team Climate Inventory. A widely recognised instrument for measuring team climate.
VET	Vocational education and training. Basic vocational education. In Switzerland's educational system, this is the upper secondary level.
VUCA	An acronym often used to describe today's more volatile, uncertain, complex and ambiguous (business) world.

1. Introduction

This chapter provides an overview of the research and its background. After introducing the research field of individual ambidexterity, the research status is outlined and the rationale for the research is discussed. Following this, the overall aim of the research and its objectives are outlined. Then, the importance and originality of the research is discussed. Finally, an overview of the structure of the thesis is provided.

1.1 Research Background

Faced with a complex, demanding and rapidly changing environment, contemporary organisations are challenged to leverage and build on their existing capabilities to remain competitive, while at the same time exploring new opportunities for future markets and industries to ensure long-term survival (Alghamdi, 2018; C. Gibson & Birkinshaw, 2004; M. Hughes, 2018). The balance between these opposing capabilities, referred to as exploitation and exploration, is known in the literature as organisational ambidexterity and has become increasingly important as a key management principle of competitive organisations over the last three decades (Koryak et al., 2018; March, 1991; O'Reilly & Tushman, 2013). Empirical studies have shown that organisational ambidexterity is positively associated with firm performance (Geerts et al., 2010; Lubatkin et al., 2006; H. Wang & Li, 2008) and sales growth rate (He & Wong, 2004; Voss & Voss, 2013).

Organisational ambidexterity requires individuals who can manage the tensions between exploitation and exploration, and decide how to divide their resources between their conflicting demands (Bonesso, Gerli & Scapolan, 2014; Gabler, Ogilvie, Rapp & Bachrach, 2017; Raisch, Birkinshaw, Probst & Tushman, 2009; Tempelaar & Rosenkranz, 2017). However, although individuals play such an important role in the concept of organisational ambidexterity, research at the individual level has long been neglected. It was only in the past decade that the role of the individual has emerged as a subject in the organisational ambidexterity literature (Good & Michel, 2013). Much of this research has focused on the antecedents of individual ambidexterity, with the aim to inform companies on how they can promote employee ambidexterity (Pertusa-Ortega et al., 2020; Schnellbächer et al., 2019).

In these efforts, several organisational factors have been identified with which companies can promote ambidexterity among their employees, such as an organisational culture characterised by stretch, discipline, support and trust, (Schnellbächer et al., 2019), trustful and resilient working environments (Zhang et al., 2019), job rotation (T. J. M. Mom et al., 2015), employee rewards for seeking and offering knowledge (Schnellbächer & Heidenreich, 2020), an organisational context characterised by knowledge sharing, adhocracy and clan culture, and organic structure (Ajayi et al., 2017), and high-involvement human resource practices (Prieto & Pilar Pérez Santana, 2012). In addition, employee-level factors conducive to ambidexterity were identified that employees striving for organisational ambidexterity should seek in the personnel selection process, such as diversity of work experiences

(Vicentini et al., 2019), organisational tenure (T. J. M. Mom et al., 2015) and certain personality traits (Keller & Weibler, 2015).

Researchers agree that individual ambidexterity places high demands on the employee (Bonesso et al., 2014; Sok et al., 2016; Tempelaar & Rosenkranz, 2017). While some researchers consider this as work enrichment, which they suggest has a motivating effect on the employee (T. J. M. Mom et al., 2018; Parker, 2014), others warn of the potential negative effects such as cognitive tensions (Keller & Weibler, 2015), frustration and anger (Karhu, 2017) and role conflict (Bonesso et al., 2014) resulting from these conflicting demands. None of these opposing ideas has been empirically proven. Empirical research on the impact of the demand for ambidexterity on the psychological well-being of the employee is lacking so far (Raiden et al., 2020). Considering that employee wellbeing influences both their individual and organisational performance (Soh et al., 2016), it becomes obvious that this research gap is a major deficit for theory as well as practice

1.2 Personal background and motivation of the researcher

The present research is motivated not only by this gap in ambidexterity theory, but also by the researcher's own experience in practice. In her role as an innovation manager, the researcher and her team colleagues were responsible for generating new business ideas on the one hand, but on the other hand also for their implementation and integration into the core business. Such a job design involves a high demand for ambidexterity (Andriopoulos & Lewis, 2010; Bledow et al., 2009; Rosing & Zacher, 2017). The first stage of the innovation process, the generation of new business ideas requires creativity and the acquisition of new knowledge from the employee (N. Anderson et al., 2014). Thus, a high degree of explorative work behaviour is required. Implementing these ideas, on the other hand, requires a structured approach (Afuah, 2020). The project management processes must be adhered to, concepts and timelines have to be generated, and cost calculations must be carried out. Thus, at this stage, a high degree of exploitative work behaviour is demanded of the employee.

In practice, it has been repeatedly shown that some employees excel in the first phase of the innovation process, while others do so in the second phase. This observation had repeatedly led to the discussion whether it would be more appropriate to assign some employees only to the first explorative phase of the innovation process and the others only to the second exploitative phase. However, when taking a closer look at the typical approach to innovation management, it quickly becomes clear that this would not really be practicable. The innovation process is usually characterised by an iterative approach (Du Preez & Louw, 2008; Trimi & Berbegal-Mirabent, 2012). In the second exploitative phase, new insights are gained, which flow back into the first explorative phase, where the business idea is sharpened or reformulated. It is to be expected that the continuous necessary coordination and transfer of insights between the team members responsible for the explorative and those responsible for the exploitative phase of the innovation process would lead to a

massive overhead. This presumption has led to refraining from such a split of innovation management middle managers in the researcher's practical working environment.

The simultaneous demand for explorative and exploitative work behaviour again led to discussions in the researcher's closer work environment when the most creative brain of the team suffered a burnout. This middle manager was known for his brilliant business ideas, which had been turned into profitable new services several times. However, his outstanding performance was mainly limited to the exploratory phase of the innovation process. According to his own statements, the demands for rigour and efficiency in the exploitative phase of the innovation process created massive stress for him. However, discussions within the team suggested that the simultaneous demand for exploitative and explorative work behaviour does not per se pose a threat to the middle managers' well-being. There were also team members who stated that it was motivating to engage in both of these distinct types of work.

These observations, her own experiences and numerous conversations with team members and leaders motivated the researcher to undertake the present research, which involves empirically investigating the impact of the demand for ambidexterity on middle managers' psychological well-being.

1.3 Research rationale

Ambidextrous employees are considered to be crucial to achieve organisational ambidexterity (Birkinshaw & Gupta, 2013; Good & Michel, 2013). This is why competitive organisations nowadays demand ambidexterity from employees in a wide range of professions (Miron-Spektor et al., 2018b). Thereby, it is particularly middle managers who are confronted with the demand for ambidexterity (Kauppila & Tempelaar, 2016; Keller & Weibler, 2015; Raisch et al., 2009). However, as the impact of this demand for ambidexterity on employee wellbeing has so far been unresearched, employers are in the dark about the consequences for their employees and ultimately for their organisation.

Employee well-being is an important predictor of both individual and organisational performance and has a significant impact on employee productivity and job satisfaction (Wright et al., 2007) as well as absenteeism and turnover (Maslach et al., 2001). In organisational theory, great importance is attached to employee well-being, as it is well known that employees who are happy with their jobs perform better (Wright et al., 2007). It is thus clear that potential negative effects on employee well-being from the demand for ambidexterity could ultimately have serious negative consequences for the organisation. Empirical research on the impact of the demand for ambidexterity on employee well-being is therefore urgently needed. This has already been recognised by researchers who have called for such research (Keller & Weibler, 2015; Raiden & Räisänen, 2018), but so far these calls have remained unanswered.

Since previous research has shown that factors of the work environment and the employee himself influence ambidexterity (Pertusa-Ortega et al., 2020; Schnellbächer et al., 2019), it might make sense to also consider such factors when investigating the impact of the demand for ambidexterity on employee well-being. An influence on the employee's ambidexterity behaviour was found for the Big Five personality traits (Keller & Weibler, 2015; Lowik et al., 2016). Keller and Weibler (2015) found that employees engage to different degrees in exploitative and explorative tasks depending on their personality. Also research in related fields has found that personality influences innovativeness (Miron et al., 2004) as well as creativity (Oldham & Cummings, 1996). It is further widely recognised that personality traits strongly influence vocational interests (Costa et al., 1984). After all, personality is considered one of the strongest predictors of subjective well-being (Diener & Lucas, 1999) and stress research has shown that it has a significant influence on the appraisal and coping process (Afshar et al., 2015; Bolger & Schilling, 1991; Shewchuk et al., 1999; Vollrath & Torgersen, 2000). These findings suggest that depending on their personality, employees find it easier or harder to engage in ambidexterity on the one hand, and on the other hand interpret the stress potentially arising from the demand for ambidexterity differently and do not cope with it equally well. In addition to personality, the work environment was identified as an important predictor of individual ambidexterity (C. Gibson & Birkinshaw, 2004; C. L. Wang & Rafiq, 2014) and innovation (Fischer et al., 2014). Furthermore, previous research has found that perceived team climate has a significant positive correlation with employee wellbeing and a significant negative correlation with their stress responses (Dackert, 2010).

Considering these findings from previous research that the employee's personality and work environment influence their ambidexterity as well as their well-being, these factors should be taken into account when investigating the impact of the demand for ambidexterity on employee well-being.

1.4 Research aims and objectives

The aim of this dissertation is to contribute to closing the research gap discussed above by investigating the impact of the demand for ambidexterity on middle managers' psychological well-being. Since previous research has found impacts of Big Five personality traits and team climate on employee ambidexterity behaviour and psychological well-being, personality and team climate are also considered in the present research. Further aims of this dissertation are therefore to investigate whether and to what extent the Big Five personality traits and the perceived team climate moderate the relationship between the demand for ambidexterity and middle managers' psychological well-being.

The objectives of the present research can be summarised as follows:

1) Through review of the literature, build a model of the impact of the demand for ambidexterity on middle managers' wellbeing and the moderating effects of the Big Five personality traits and team climate.
2) To develop, pilot and implement a questionnaire to collect data to enable testing of the model.
3) To analyse the data collected using the questionnaire to test the hypotheses using structural equation modelling.
4) To reformulate the model based on the findings and to make recommendations for practice.

1.5 Importance and originality of the research

Organisational ambidexterity is considered a key management principle for competitive organisations in order to remain competitive on the one hand and ensure long-term survival on the other hand by using existing capabilities and exploring new opportunities at the same time (Koryak et al., 2018; March, 1991; O'Reilly & Tushman, 2013). Researchers agree that achieving organisational ambidexterity requires ambidextrous employees who can manage the tensions between exploitation and exploration and divide resources between these conflicting activities in a meaningful way (Bonesso, Gerli & Scapolan, 2014; Gabler, Ogilvie, Rapp & Bachrach, 2017; Raisch, Birkinshaw, Probst & Tushman, 2009; Tempelaar & Rosenkranz, 2017).

Considering that ambidextrous employees are key to organisational ambidexterity and thus significantly contribute to long-term survival of their organisation, several researchers have investigated what conditions companies need to create in order to foster ambidexterity among their employees (Pertusa-Ortega et al., 2020).

All the efforts to explore the antecedents of individual ambidexterity are based on the assumption that ambidexterity is unconditionally beneficial to the organisation and its middle managers. Possible negative effects for the middle managers and thus possibly also for the organisation are widely ignored. This is a serious deficit, especially given the indications of possible negative impacts on the psychological well-being of the employee found in previous research (Bonesso et al., 2014; Karhu, 2017; Keller & Weibler, 2015; Raiden et al., 2020). Employee well-being is an important indicator of individual and organisational performance impacting factors including productivity and job satisfaction (Wright et al., 2007) as well as absenteeism and turnover (Maslach et al., 2001). Given the potentially serious negative consequences of impaired employee well-being for the organisation, the question of how the demand for individual ambidexterity affects employees' psychological well-being represents a significant research gap. This shortcoming has led Keller and Weibler (2015), as well as Raiden and Räisänen (2018), to call for research on this issue.

This thesis responds to this call for research and thus makes an important contribution to the closure of a serious gap in the ambidexterity literature. It will further inform employers as to whether

demanding ambidexterity from their employees, more specifically middle managers, is really in the best interest of their organisation.

1.6 Thesis structure

After this introductory chapter, the literature review in chapter 2 builds the theoretical foundation for the present research. The chapter develops the hypotheses and the research model. The following Chapter 3 discusses the methodological considerations and decisions. A main focus of this chapter is the discussion of the approach to the development, translation, and testing of the research instrument. Furthermore, the sampling procedures and ethical considerations are discussed in this chapter. Following this, chapter 4 discusses the data analysis. The hypotheses are examined using structural equation modelling. The results of the data analysis are then discussed in chapter 5. This chapter outlines the implications of the findings for theory and makes recommendations for practice. The thesis ends with an overall conclusion and a short personal reflection of the researcher in chapter 6.

2. Literature review

This chapter sets the theoretical foundation for the present research. First, the theoretical context is outlined, and it is discussed which theories are applied in exploring and investigating the research question. Next, the theoretical field of ambidexterity is discussed as the central research area of the present research. This is done by first discussing the concept of organisational ambidexterity. Then the focus is shifted from the organisation to the individual and individual ambidexterity is addressed. In this context, the research gap of the impact of the demand for ambidexterity on psychological well-being of the employee is discussed, which is addressed by this thesis. Subsequently, work-related well-being and potential influences on it due to the demand for ambidexterity is discussed. This is followed by a discussion of potential connections and influences of the employee's personality traits and the team climate. In the context of these discussions, the research hypotheses are formulated. The chapter ends with the development of the research model that serves as the basis for this research.

2.1 Theoretical context

In the following, the theoretical context of the present research is outlined, and the theories employed to describe and investigate the research problem are discussed. Figure 1 illustrates the theoretical setting of this research. The research question is approached from the perspective of individual ambidexterity theory, a theoretical field that has emerged from the theory of organisational ambidexterity. By examining the impact of the demand for ambidexterity on psychological well-being, taking into account personality and team climate, this research creates links between these theories. Additional theories are applied to explain particular relevant phenomena. The role of each theory for this research is discussed in the following subsections. This is followed by an in-depth discussion of the theory and the derivation of the research hypotheses in section 2.2 for organisational ambidexterity, in section 2.3 for individual ambidexterity, in section 2.4 for work-related well-being, in section 2.5 for personality and in section 2.6 for organisational climate. Finally, section 2.7 discusses additional possible influencing factors that are not clearly attributable to a specific theory. The conceptualisation and operationalisation of each research construct are discussed later in section 3.4.3 of the methodological chapter.

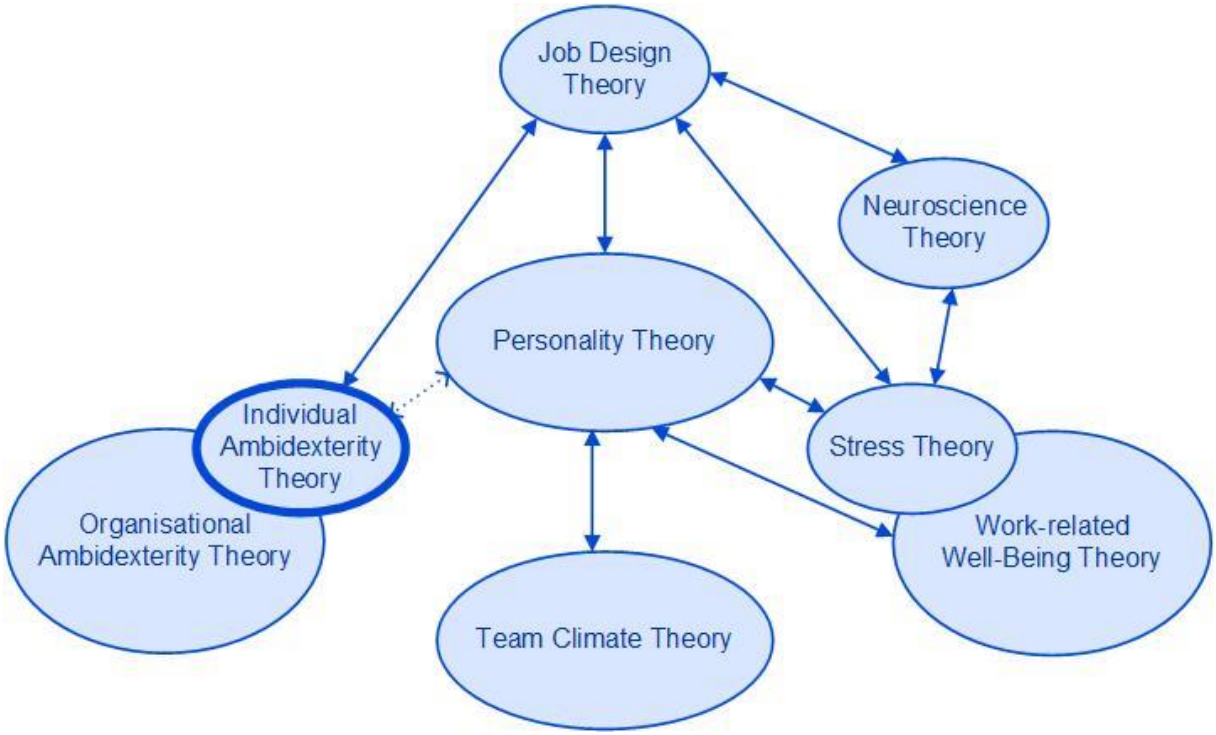


Figure 1: Theoretical context of the present research

2.1.1 Relevance of organisational ambidexterity theory

The central question of the present research is what effects the demand for ambidexterity has on the psychological well-being of middle managers. Based on this research question, the present study is basically allocated within the **theory of organisational ambidexterity**. Organisational ambidexterity refers to the ability of organisations and their individuals to seemingly simultaneously engage in exploitation (being efficient) and exploration (being innovative) (C. Gibson & Birkinshaw, 2004; He & Wong, 2004; March, 1991; O'Reilly & Tushman, 2013). The simultaneous engagement in the distinct activities of exploitation and exploration is also discussed in the literature with a view through the lens of paradox theory (Karhu & Ritala, 2018; Miron-Spektor et al., 2018b; Papachroni et al., 2015; Schad et al., 2019; W. Smith & Lewis, 2011). In contrast to ambidexterity theory, which considers the two activities as contradictory, from the perspective of paradox theory they are seen as complementary tasks (Jansen et al., 2016; Papachroni et al., 2016; Rosing & Zacher, 2017). As the literature discussion in the following sections will reveal, the present research draws on indications from the literature as well as practical experience of the researcher which indicate a potential negative impact of the demand for ambidexterity on the psychological well-being of middle managers. Based on this assumption, the activities of exploration and exploitation are considered as contradictory by the present research. This is why explicitly the theoretical lens of ambidexterity theory was chosen for this research.

2.1.2 Relevance of individual ambidexterity theory

Organisational ambidexterity has been studied with a focus on different entities of the organisation, such as the organisation as a whole, units, work groups and teams, projects and individuals (Andriopoulos & Lewis, 2010; Jansen et al., 2016; March, 1991; Rosing & Zacher, 2017; Zhang et al., 2019). In the present research, the focus is on the individual, specifically on middle managers. From this perspective on the individual, which has become increasingly prominent in the last decade, the distinct research field of individual ambidexterity has evolved, in which also the present research is situated. The **individual ambidexterity theory** to date focuses mainly on how individuals manage the simultaneous engagement in exploration and exploitation, and how individual ambidexterity can be fostered (Boemelburg et al., 2018; C. Gibson & Birkinshaw, 2004; T. J. M. Mom et al., 2009; C. L. Wang & Rafiq, 2014; Yu & Gudergan, Siegfried Chen, 2018). Individual ambidexterity has also become an important topic in **job design theory** in recent years, where it is seen as a valuable form of workplace enrichment that can increase employee creativity, innovation and motivation (T. J. M. Mom et al., 2018; Parker, 2014).

2.1.3 Relevance of work-related well-being theory

The present research brings a new aspect to the individual ambidexterity literature by examining the possible effects of the demand for ambidexterity on the psychological well-being of the individual. In doing so, it creates a direct link between individual ambidexterity theory and **work-related well-being theory**. Research on work-related well-being has a long tradition. As early as the 1930s, Rex B. Hersey (1932) established the happy-productive worker thesis, which aroused great interest in the well-being of the employee in business and management research. To this day, employee well-being is considered an important precondition for the performance and long-term survival of the organisation and therefore enjoys great significance in business and management research (Maslach et al., 2001; Wright et al., 2007). Also in job design theory, there is a strong focus on designing workplaces in such a way that they are conducive to employee well-being (Demerouti et al., 2002; Idris et al., 2014; Oldham & Fried, 2016; Parker, 1998). The present research finally creates the yet non-existent link between the theories of individual ambidexterity and work-related well-being

2.1.4 Relevance of work-related stress theory

Closely related to the theory of work-related well-being is the **theory of stress in the workplace** (Cotton & Hart, 2003; de Jonge et al., 2000). Numerous studies have found a direct negative correlation between the perceptions of stress at work and work-related well-being (de Jonge et al., 2000; Rothmann, 2008; Sonnentag & Frese, 2003). Researchers have further incorporated work-related stress as a dimension in their conceptual models of work-related well-being (Narainsamy &

Van Der Westhuizen, 2013; Rothmann, 2008; Soh et al., 2016). This research draws on stress theory, specifically the transactional theory of stress and coping (TTSC) (Lazarus & Flokman, 1986), to describe the effect of the stressor of the demand for ambidexterity on the employee. The TTSC's underlying transactional stress model by Lazarus describes the subjective appraisal, coping by and finally the effect of the stressor on the individual (Lazarus, 1966). In this research, Lazarus' transactional stress model thus explains the effect of the demand for ambidexterity on the psychological well-being of middle managers.

2.1.5 Relevance of personality theory

Numerous relationships between the theories of work-related well-being and work-related stress with the **theory of personality** are documented in literature. Furthermore, in the individual ambidexterity literature, a few links to personality theory can be found. For instance, it is widely recognised in literature that the appraisal, coping and effects of stressors on individuals are highly dependent on their personality (Afshar et al., 2015; Bolger & Schilling, 1991; Shewchuk et al., 1999; Taylor & Kluemper, 2012; Vollrath & Torgersen, 2000). In general, personality is known to be an important predictor of subjective well-being (Deneve & Cooper, 1998; R. E. Lucas & Diener, 2009). Findings from individual ambidexterity research further suggest that personality may also have an influence on the individual's ambidexterity behaviour (Keller & Weibler, 2014; Zacher et al., 2016). Finally, personality is also a frequent topic in job design theory, as it is often associated with occupational interests (Holland, 1997; Mount et al., 2005; Van Iddekinge et al., 2011). Based on these findings from previous research, the present research hypothesises that personality also plays an important role in the impact of the demand for ambidexterity on psychological well-being, specifically that it moderates this relationship.

2.1.6 Relevance of team climate theory

There are further associations between the theories of individual ambidexterity and work-related well-being with the **team climate theory** documented in the existing literature. Several studies have identified the team climate as the most important antecedent condition for individual ambidexterity (C. Gibson & Birkinshaw, 2004; C. L. Wang & Rafiq, 2014). Furthermore, it has been found that a positively perceived team climate can significantly reduce work stress and improve well-being (Dackert, 2010). Considering these previous findings, the present research hypothesises that team climate, as another moderator, also influences the impact of the demand for ambidexterity on the psychological well-being of middle managers.

2.2 Organisational ambidexterity

In the following, the theory of organisational ambidexterity is introduced. The relevance of organisational ambidexterity in contemporary management theory and practice is outlined. Understanding the purpose of ambidexterity at the organisational level helps to understand the importance of the subsequently discussed ambidexterity at the individual level.

2.2.1 Definition and origins

The concept of organisational ambidexterity has gained increasing interest in management literature over the last two decades (C. Gibson & Birkinshaw, 2004; Raisch & Birkinshaw, 2008; Rosing & Zacher, 2017). The term *ambidexterity* originates in medicine, where it describes the phenomenon of having equal facility in the use of both hands. In the corporate context, the term was first mentioned by Duncan (1976), who introduced the concept of ambidextrous organisation describing the dual structures that organisations introduce to organise activities involving different time horizons and capabilities. However, the theory received little attention until March's (1991) ground-breaking paper, in which he described *ambidexterity* as the balance between two different forms of learning: exploitation and exploration. Other authors have described ambidexterity as the balance between alignment and adaptability (Gibson & Birkinshaw, 2004). March noted that an appropriate balance between exploitation and exploration is essential for long-term survival (March, 1991). As he puts it, *exploitation*, which is the extension and improvement of existing capabilities, is necessary to succeed amid the competition. E*xploration*, the development of completely new capabilities and opportunities, is on the other hand important to ensuring that the company does not become irrelevant due to technological or market changes.

In theory, as well as in practice, achieving this balance has been considered a major challenge: *"The basic problem confronting an organization is to engage in sufficient exploitation to ensure its current viability and, at the same time, to devote enough energy to exploration to ensure its future viability. Survival requires a balance, and the precise mix of exploitation and exploration that is optimal is hard to specify." (Levinthal & March, 1993, p. 105)*. However, the challenge lies not only in the appropriate allocation of resources, but also in dealing with the conflicts that exist between exploitation and exploration due to their conflicting objectives and the different structures and capabilities required for these activities (He & Wong, 2004). Table 1 provides an overview of the opposing activities of exploitation and exploration.

Table 1: Characteristics of Exploitation and Exploration (adapted from March 1991)

	Exploitation	**Exploration**
strategic intent	increase competitiveness and profit, reduce costs	long-term growth, revolutionising existing industries and markets
operational focus	efficiency, operations, quality, incremental innovation	adaptation, new industries and markets, radical innovations
structure	centralised, tight, hierarchical, formal	decentralised, loose, flat structures, informal
culture	efficiency-driven, low risk tolerance, highly regulated and controlled	open, collaborative, flexible, experimental, and probing, willing to take risks
work orders	strictly defined and specialised	roughly and openly defined, not strongly specialised

Since the first appearance of the theory of organisational ambidexterity in management literature, two basic concepts have evolved (Birkinshaw & Gibson, 2004; Gibson & Birkinshaw, 2004). Under the approach of *structural ambidexterity*, exploitation and exploration are separated into different business units with distinctive structures, processes, and cultures. The other approach, *contextual ambidexterity*, suggests that exploitation and exploration can occur simultaneously within one business unit. This concept implies that each individual employee decides how to divide their time between different activities. Finally, there is *sequential ambidexterity*, which involves temporal alternation between exploitation and exploration. However, no consensus exists in the literature as to whether this concept really can be regarded as ambidextrous (O'Reilly & Tushman, 2013).

2.2.2 Sequential ambidexterity

In his initial paper, Duncan (1976) suggests that companies should shift their structures over time to align them with their current strategy. A balance is achieved by alternately concentrating on exploitation and exploration, and on adapting the structures accordingly. Drawing on evolutionary biology, Tushman and Romanelli (1985) argue that organisations develop during relatively long periods of stability (periods of equilibrium) that are interrupted by brief outbursts of fundamental change (periods of revolution). Based on this idea, their theory of interpunctual equilibrium change suggests that companies evolve and improve during long periods of stability. These phases are occasionally interrupted by short punctual phases of intense change, in which revolutionary transformation occurs within the organisation.

Other concepts of temporary alternation between exploitation and exploration have come, for example, from Brown and Eisenhardt (1997), who propose '*semistructures'* and '*links in time*' to achieve balance and simultaneously focus attention on different time horizons and transitions. Nickerson and Zenger (2002), on the other hand, introduced the term *'organizational vacillation'* and suggest that a high level of both exploitation and exploration is achieved by temporal and sequential alternation between appropriately configured formal organisational structures (Boumgarden et al., 2012).

These concepts of temporary alternation between exploitation and exploration have occasionally been referred to in the literature as sequential ambidexterity (O'Reilly & Tushman, 2013). However, it is questionable whether this approach really can be considered as ambidextrous, as empirical studies have shown that several years often pass between shifts from exploitation to exploration, and vice versa (O'Reilly & Tushman, 2013). Gupta, Smith and Shalley (2006), for example, who refer to this temporary alternation between exploitation and exploration as punctuated equilibrium, consider this an alternative approach to structural ambidexterity, which is discussed in the following section.

The concept of sequential ambidexterity has been increasingly criticised over the past two decades. Christensen and Overdorf (2000) caution, for example, that the drastic adjustments to the existing organisation that become necessary when switching between exploration and exploitation can destroy the core capabilities that sustain the company. Hughes (2018) considers the main challenge of this approach to be the difficulty of identifying the right point to shift in a self-reinforcing phase of exploitation or exploration, and to do so in a way that the right standard is reached. Tushman and O'Reilly (1996) argue that in the context of rapid change, the sequential approach can lead to inefficiency.

2.2.3 Structural ambidexterity

Given the shortcomings of the sequential ambidexterity approach, Tushman and O'Reilly (1996) have introduced the concept of structural ambidexterity, which allows companies to exploit and explore at the same time. Taking into account that exploitation and exploration require completely different contexts and attitudes (He & Wong, 2004; March, 1991), their concept involves adopting multiple contradictory structures, processes and cultures within the same company. They suggested that organisational ambidexterity could be achieved by creating autonomous and structurally separate exploitation and exploration subunits, each with its own orientation, structures and culture (O'Reilly & Tushman, 2013).

Organisations implementing the concept of structural ambidexterity are characterised by highly differentiated, but weakly integrated, exploitation and exploration subunits. The exploitation units are large and highly centralised, with narrow cultures and processes. The exploration units, on the other hand, are small and decentralised, with loose cultures and processes (Benner & Tushman, 2003).

While structural differentiation ensures consistency within individual organisational units, it requires coordination and integration at a higher level (Lavie, Stettner & Tushman, 2010). Senior managers play an important role here, acting as integrators responsible for managing tensions between exploitation and exploration (Jansen, Tempelaar, van den Bosch & Volberda, 2009). Furthermore, senior managers determine organisational structure, processes and culture, and how resources are divided between exploitation and exploration units (W. K. Smith & Tushman, 2005).

The concept of structural ambidexterity has received much attention from management practice and theory, eliciting countless research papers, studies and conference contributions (O'Reilly & Tushman, 2013). Until a decade ago, it was considered the standard approach to achieving organisational ambidexterity (Y. C. Chang et al., 2009; de Visser et al., 2010; Heracleous et al., 2017). Moreover, it has been viewed as a possible response to what Christensen (2013) terms 'disruptive innovation' (Chen, 2017). Disruptive innovations "*create an entirely new market through the introduction of a new kind of product or service, one that's actually worse, initially, as judged by the performance metrics that mainstream customers value.*" (Christensen & Overdorf, 2000, p. 7). A popular example of an organisation that has been hit hard by a disruptive innovation is that of Kodak (Campbell & Robinson, 2017; O'Reilly & Tushman, 2004). Kodak, which was one of the market leaders in analog photography, was so focused on optimising its existing business (exploitation) that it did not recognise the new trend of digital photography for a long time and when it became obvious, it took them almost two decades to adapt to the new market (H. C. Lucas & Goh, 2009). O'Reilly and Tushman (2008) consider the implementation of structural ambidexterity, where in addition to the exploitation units focused on the core business, small autonomous exploration units are created that explore possible future business, as a solution to this 'innovator's dilemma'.

2.2.4 Contextual ambidexterity

Sequential and structural ambidexterity both involve the implementation of distinct structures to resolve the tensions between exploitation and exploration. Thus, the concepts involve coordination and adjustment efforts and result in a certain overhead (Lavie et al., 2010; Simsek, 2009). Due to this required extra effort, these structural approaches are often not a practical solution, especially for smaller companies (Lubatkin, Simsek, Ling & Veiga, 2006). This has led Gibson and Birkinshaw (2004) to develop a more integrated approach, which they have introduced in 2004 as the concept of contextual ambidexterity, which is based on behavioural and social means and thus does not involve dual structures. Contextual ambidexterity aims to enable companies to exploit and explore simultaneously within the same business unit. Instead of introducing dual structures, Gibson and Birkinshaw suggest "*building a set of processes or systems that enable and encourage individuals to make their own judgements about how to divide their time between conflicting demands for alignment and adaptability*" (C. Gibson & Birkinshaw, 2004, p. 210).

A major difference between contextual ambidexterity and the approach of structural is that the decision on allocating resources is made not by top management, but by individual employees, who must decide how to best allocate their time between the distinct activities (Birkinshaw & Gibson, 2004). Individuals are thereby empowered by a supportive context, which is described as a combination of structures, processes, culture and climate of a business unit (Gibson & Birkinshaw, 2004). A business unit can achieve ambidexterity by allocating different roles to each individual (Raisch et al., 2009; Tempelaar & Rosenkranz, 2017). The ability of the individual to exploit and explore and to deal with the tensions between the exploitation and exploration roles is a basic prerequisite for ambidexterity under this approach (Raisch et al., 2009).

The three approaches to achieving ambidexterity discussed, with their different balancing modes and characteristics, are presented in figure 2.

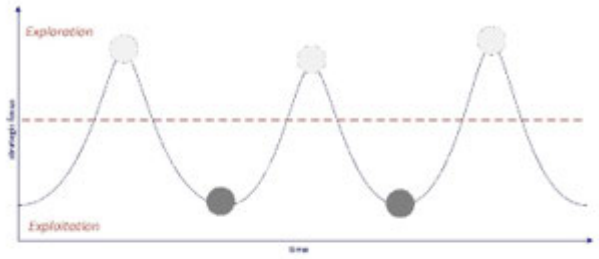
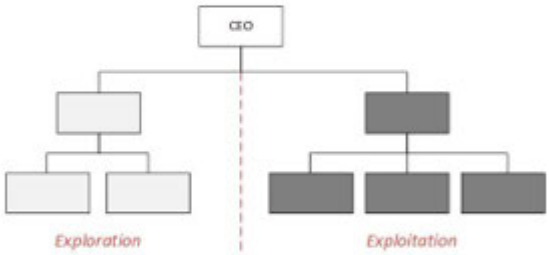
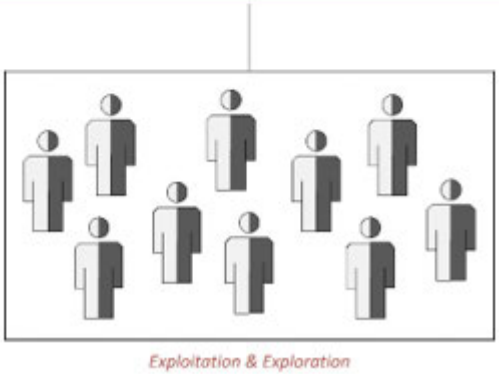
Balancing mode	Characteristics
Sequential ambidexterity	
	• temporal shifting focus between exploitation and exploration • exploitation and exploration are performed sequentially • structures and processes are realigned in terms of time
Structural ambidexterity	
	• structural separation of smaller exploration departments and larger exploitation departments • exploitation and exploration are performed simultaneously • exploitation and exploration are performed by different departments and employees • top management is responsible for integration and coordination
Contextual ambidexterity	
	• exploitation and exploration are performed simultaneously within a single unit • a context and structures conducive to both exploitation and exploration are created • the individual employee is responsible for allocating resources between exploitation and exploration

Figure 2: Basic concepts for balancing exploitation and exploration

Although there is widespread agreement in literature about the advantages of contextual ambidexterity over structural or temporal separation of exploration and exploitation, researchers agree that achieving it is a major challenge (Havermans et al., 2015). For example, individuals need to be able to adopt a paradoxical mindset, and discard the prevailing '*either/or*' mindset (C. Gibson & Birkinshaw, 2004). Managers must be able to deal with strategic contradictions (W. K. Smith & Tushman, 2005). Moreover, the individual employees must be able to manage the role conflict that can arise from the competing demands placed on them (Agnihotri et al., 2017). As a result of recognising the individual's role in achieving ambidexterity, a more recent research stream focusing on individual ambidexterity

has emerged. This concept of individual ambidexterity, which forms the theoretical basis of the present research, is discussed in depth in the following section.

2.3 Individual ambidexterity

After having laid the theoretical foundation in the previous sections by discussing ambidexterity at the organisational level, the focus is now shifted to the individual level and the concept of individual ambidexterity is discussed, which constitutes the research area of this thesis.

2.3.1 Role of individual ambidexterity in contemporary business context

There is a broad consensus in literature that individuals play a crucial role in achieving organisational ambidexterity (Birkinshaw & Gupta, 2013; Good & Michel, 2013). O'Reilly and Tushman (2004, p. 81) conclude that "*One of the most important lessons is that ambidextrous organizations need ambidextrous senior teams and managers."*. Gibson and Birkinshaw (2004) go one step further, arguing that under their concept of contextual ambidexterity, each employee should be able to manage tensions between exploitation and exploration and decide personally how to divide resources between these conflicting activities.

The significant role of the individual has long been unnoticed in the theory of organisational ambidexterity and the extensive research has largely focused on the organisational level (Junni, Sarala, Taras & Tarba, 2013; Raisch & Birkinshaw, 2008; Rosing & Zacher, 2017). It was only in the past decade that the role of the individual has slowly emerged as a subject in organisational ambidexterity literature. Mom et al. (2007) were the first to explore ambidexterity at the individual level. They followed March's conceptualisation of managers' exploration and exploitation activities: "*Exploration includes things captured by terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, innovation. Exploitation includes such things as refinement, choice, production, efficiency, selection, implementation, execution.*" (March, 1991, p. 71).

After previous research had shown that organisations can virtually simultaneous engage in exploitation as well as exploration (Benner & Tushman, 2003; He & Wong, 2004; W. K. Smith & Tushman, 2005), Mom, Van Den Bosch and Volberda (T. J. M. Mom et al., 2007) investigated whether this is also possible at the level of the individual employee by surveying managers of a leading electronics company. They found that individual managers engage to different degrees in exploration and exploitation. While some focus on exploration, others focus on exploitation. And then there are managers who are heavily engaged in both exploration and exploitation, so in other words, are ambidextrous (Mom et al., 2007). A number of researchers have concluded that these ambidextrous employees, with their ability to simultaneously focus on exploitation and exploration, are critical to

achieve organisational ambidexterity, the ability to simultaneously focus on short-term profit as well as long-term growth (Birkinshaw & Gupta, 2013; Bonesso et al., 2014; Good & Michel, 2013).

Individual ambidexterity, which entails the ability to deal with contradictions, plays a significant role in innovation management and is often discussed in this context. Innovation, by definition, is characterised by tensions, contradictions, paradox and dilemmas (Bledow et al., 2009; Rosing & Zacher, 2017). For example, Andriopoulos and Lewis (2009) describe as a paradox of strategic intentions of innovation the tensions between the focus on profit (innovations to increase efficiency and maximise revenue in the existing market) and the focus on breakthrough (risky innovations to ensure future business). Another innovation paradox they describe is that of customer orientation, which involves the tensions between tight coupling (satisfying the needs of existing customers) and loose coupling (probing new products or technologies for future markets). Furthermore, they describe as an innovation paradox at the personal level the tension between discipline (a well-defined development process and clear targets in terms of results, budgets, and deadlines) and passion (creativity and personal expression). In innovation management, however, tensions occur not only with regard to the focus of innovation, but the innovation process itself includes contradictory activities, such as those of idea generation and innovation implementation, which in fact require different conditions (Bledow et al., 2009). The ability to innovate differs from the ability to be creative in that innovation requires not only the generation of ideas, but also their successful implementation (Anderson, Potočnik & Zhou, 2014). Successful innovators have on the one hand, to be creative and open to produce innovative ideas. On the other hand, they must be able to focus and be efficient to implement the ideas and turn them into innovations. Generating and implementing new ideas are two completely different tasks, requiring different abilities and mental states (N. Anderson et al., 2014). The generation of ideas has been described as the acquisition of new knowledge, while the implementation of ideas relies on existing knowledge. In order to be successful, an innovator must therefore master both disciplines and thus be ambidextrous (Rosing & Zacher, 2017).

However, not only innovators, but also employees in operational positions such as customer service are today confronted with tensions that involve both exploitative and explorative activities (de Ruyter et al., 2019; Gabler et al., 2017). Customer service and frontline employees are faced with the challenge that, on the one hand, they must provide excellent service to remain competitive and, on the other hand, they must heavily engage in cross-selling and up-selling to achieve their sales quotas (Agnihotri et al., 2017; Jasmand et al., 2012). Employee ambidexterity is therefore discussed as an important enabler for achieving service-sales alignment (Jasmand et al., 2012).

In today's global world of volatility, uncertainty, complexity and ambiguity (VUCA), companies from virtually all industries are required to be ambidextrous (Y. Liu et al., 2021). Therefore, ambidexterity is demanded from employees in many other professions, including IT specialists, health professionals, artists and teachers (Miron-Spektor et al., 2018b). As Birkinshaw and Gupta point out, in organisations that do not solve the exploitation-exploration paradox by structural separation, almost

every employee is required to be ambidextrous: "*In fact, even the most ordinary production worker or call center worker faces some version of the ambidexterity dilemma: How much of my time should I spend exploiting my basic skills for the benefit of the organization, and how much should I try to develop new skills and/or help the organization in creative ways?*" (Birkinshaw & Gupta, 2013, p. 294).

In summary, it can be concluded that ambidextrous employees are becoming increasingly important in today's economy. It is suggested that the ideal employee no longer only performs regulated activities conscientiously, but that the ambidextrous employee also takes on the role of an entrepreneur who independently seeks new ways and opportunities (Holmqvist & Spicer, 2012).

As previous research has shown, with regard to hierarchical level, it is particularly middle managers who are confronted with the demand for ambidexterity (Kauppila & Tempelaar, 2016; Keller & Weibler, 2015; Raisch et al., 2009). Middle managers usually hold operational responsibilities such as managing and optimising daily business (exploitation) and at the same time strategic responsibilities such as the further development of products and services (exploration) (Huy, 2001). As Brugess and colleagues put it: "*Middle managers have to reconcile the practicalities of day to day operations—and the concerns and needs of frontline staff—with the strategic choices and priorities set by more senior managers."* (Brugess et al., 2014, p. 88).

2.3.2 Research status and gaps

The recognition of the value proposition of ambidextrous employees, or specifically middle managers, has led directly to the question of how companies can encourage them to become ambidextrous. This has led researchers to increasingly investigate this question over the last decade (Boemelburg et al., 2018; Faisal Ahammad et al., 2015; Lowik et al., 2016; Yu & Gudergan, Siegfried Chen, 2018).

A large proportion of these researchers have looked for answers in the employee's work environment. They have identified various factors of the working context which promote individual ambidexterity. For example, Ajayi, Odusanya and Morton (2017, p. 675) describe an organisational context that is conducive to individual ambidexterity as one *"that decentralises decision making that promotes the delegation of authority, reduced emphasis on formal rules and procedures; lateral interactions among employees; and team work to mention a few."*. Other authors conclude that an organisational context conducive to individual ambidexterity should implement a culture characterised by stretch, discipline, support and trust (C. Gibson & Birkinshaw, 2004; Schnellbächer et al., 2019). Wang and Rafiq (2014) consider individual involvement and participation as part of the organisational culture and context essential to fostering individual ambidexterity. Other researchers consider leadership to be an important contextual characteristic for promoting individual ambidexterity (Rao-Nicholson et al., 2016; Yu et al., 2013).

Significantly fewer researchers than those who examined the work environment for stimulating factors have looked for characteristics that are conductive to ambidexterity in the individual. They identified psychological, cognitive and background related features of the employee that are conducive to their ambidexterity behaviour (Eisenhardt et al., 2010; Keller & Weibler, 2014; Lowik et al., 2016; T. J. M. Mom et al., 2015). Focusing on the personal contributors, they found that high levels of conscientiousness promote exploitative work behaviour, while high levels of openness to experience promote exploratory work behaviour (Keller & Weibler, 2014; Zacher et al., 2016). With regard to the cognitive characteristics of the employee, the abilities to process information and to learn, to multitask and to accept contradictions were identified as conducive to individual ambidexterity behaviour (Eisenhardt et al., 2010; C. Gibson & Birkinshaw, 2004; T. J. M. Mom et al., 2009; W. K. Smith & Tushman, 2005). In addition, ambidexterity-promoting characteristics of the employee's professional background were identified, such as diversity of work experiences (Vicentini et al., 2019) and organisational tenure (T. J. M. Mom et al., 2015).

While the prerequisites for individual ambidexterity have not yet been conclusively researched (Pertusa-Ortega et al., 2020), researchers largely agree the demand for individual ambidexterity creates challenges and places high demands on the employee (Bonesso et al., 2014; Sok et al., 2016; Tempelaar & Rosenkranz, 2017). Fundamentally, individuals must be willing to accept the tensions and engage in contradictory goals (Miron-Spektor et al., 2018b; Papachroni et al., 2016; W. K. Smith & Tushman, 2005; W. Smith & Lewis, 2011). They must also be able to deal with the conflicting roles assigned to them (Bonesso et al., 2014; Gabler et al., 2017; Raisch et al., 2009; Tempelaar & Rosenkranz, 2017). Furthermore, they are challenged cognitively to handle the paradox by switching between exploitation and exploration (Kauppila & Tempelaar, 2016; Keller & Weibler, 2015; Laureiro-Martínez et al., 2015).

Considering the high demands that individual ambidexterity entails, it is not surprising that previous research has identified indications of possible negative effects of the demand for ambidexterity on the well-being of employees. For example, Bonesso, Gerli and Scapolan (2014) concluded from their inductive multiple case study that insufficient clarification and communication of the ambidextrous roles can lead to role conflict and cognitive dissonance in the employee. Karhu (2017) suggests, with reference to the literature of cognitive psychology and research on emotions, that the constant rapid switching between exploitative and explorative tasks may trigger burnout, stress and feelings of frustration and anger in the employee. Furthermore, in their study of 179 German managers, Keller and Weibler (2015) found a positive correlation between the degree of individual ambidexterity that the managers reported performing in their current job and the cognitive tensions that these managers stated they experienced.

However, such consequences have remained largely unresearched to date (Agnihotri et al., 2017; Caniëls & Veld, 2016; Holmqvist & Spicer, 2012; Tempelaar & Rosenkranz, 2017; Turner et al., 2013). This is a major deficit, since employee well-being is an important indicator of individual and

organisational performance impacting factors including productivity and job satisfaction (Wright et al., 2007) as well as absenteeism and turnover (Maslach et al., 2001). Both theorists and practitioners have attached great importance to a high degree of employee well-being since the introduction of the happy-productive worker thesis in the 1930s, which states that employees who are happy with their jobs have a higher work performance (Wright et al., 2007). As the founder of this thesis, Rex B. Hersey once stated: "*It would seem impossible to escape the fact that in the long run, at least, men are more productive when they are in a positive state than in a negative one.*" (Hersey, 1932, pp. 356–357).

Given the potentially serious negative consequences of impaired employee well-being for the organisation, the question of how the demand for individual ambidexterity affects employees' psychological well-being represents a significant research gap. This shortcoming has led Keller and Weibler (2015), as well as Raiden and Räisänen (2018), to call for research on this issue. The aim of this research is to contribute to the closing of this research gap. It draws on previous studies which indicate that individual ambidexterity is promoted by certain organisational and personal factors. The research addresses the proposition that the demand for ambidexterity is particularly challenging and possibly a threat to the well-being of the employee if these factors are not present.

2.4 Work-related well-being

The following sections introduce the theory of work-related well-being. The current state of the literature regarding the possible impact of the demand for ambidexterity on various aspects of employees' psychological well-being is discussed. Finally, the theoretical foundation for hypothesis H1 of this research, which predicts a negative effect of the demand for ambidexterity on employee psychological well-being is laid.

2.4.1 Concept and history

Although well-being has been of scientific interest since Aristotle's time, there is still no uniform definition and conceptualisation of it (Deci & Ryan, 2008). This lack is also noticeable in organisational research, where employee well-being as an important indicator of personal and organisational performance receives great importance (Rothmann, 2008). Occupational well-being has been studied on the basis of affective, behavioural, cognitive, professional, social and psychosomatic components (E. Russell & Daniels, 2018; Van Horn et al., 2004; Warr, 2012). Of all these components, affective well-being has been identified as the most important indicator of occupational psychological well-being (Daniels, 2000; Van Horn et al., 2004) because of its close relationship with important work performance indicators such as job satisfaction, career success and burnout (E. Russell & Daniels, 2018).

A widely used model for conceptualising affective experience is Russell's (1980) circumplex model of affect. The model is based on the theoretically and empirically widely supported notion that affective states are not independent of each other but are deliberately connected to one another and can be systematically ordered along two or three dimensions. Researchers do not entirely agree on the number and nature of the dimensions. Mostly, however, they refer to some sort of valence or pleasantness and intensity or arousal (Rubin & Talarico, 2009). Russell suggests that "*affective states are, in fact, best represented as a circle in a two dimensional space*" (J. A. Russell, 1980, p. 1162). Thus, his model comprises two dimensions. The horizontal dimension is formed by a pleasure-displeasure continuum and the vertical dimension by an arousal-sleep continuum.

Later on, Warr (1990) explicitly adapted the circumplex model to the work context. In his model (see figure 3), he defines work-related affective well-being by means of two main dimensions, pleasure (horizontal) and arousal (vertical). He considers the pleasure dimension more important than the arousal dimension, which is why his model is elliptical rather than circular. The different contents of the affective experiences are represented in the model by three axes (1) displeased-pleased, (2) anxious-contented and (3) depressed-enthusiastic. He later renamed the second axis anxious-comfortable (Warr, 1994). The model provides a description of both the content and the intensity of work-related affective states. Warr's model of affective well-being at work is nowadays the most widely used theoretical model to describe work-related well-being (Mielniczuk & Łaguna, 2018; E. Russell & Daniels, 2018).

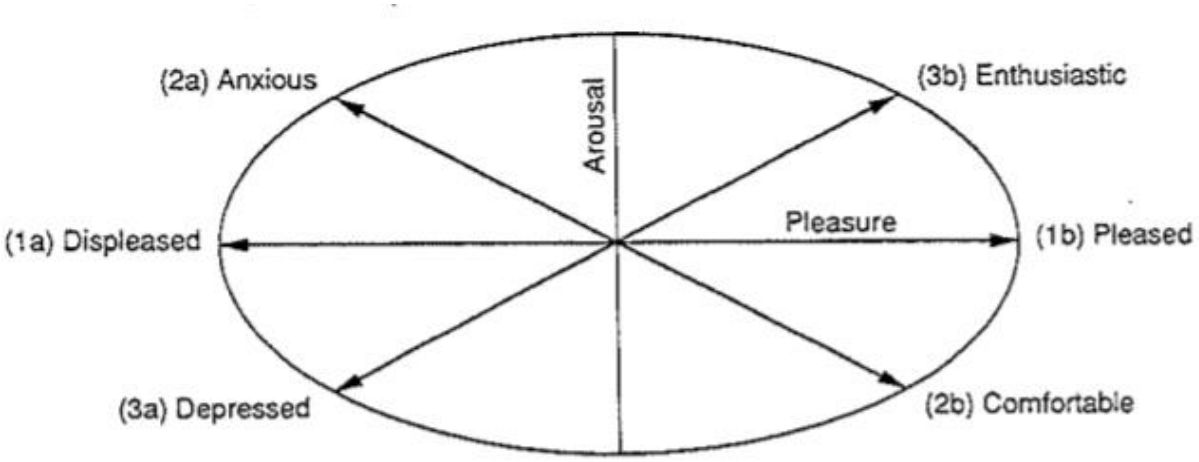


Figure 3: Warr's conceptual model of affective well-being. Source: (Warr, 1994)

2.4.2 The potential impact of the demand for ambidexterity on well-being

Work design researchers argue that the demand for ambidexterity should be seen as a form of work enrichment that increases the autonomy and motivation of employees (T. J. M. Mom et al., 2018; Parker, 2014). Organisations should aim for high levels of employee motivation as it is known to positively influence employee performance (Hauser, 2008; Othman, 2010; Steers et al., 2004). Furthermore, the positive effects of work motivation and autonomy on employee well-being are well known in literature (Gagné et al., 2015; Nie et al., 2015). However, to the researcher's knowledge, there has been no empirical study to date that has demonstrated such a motivational effect of the demand for ambidexterity.

Previous research has repeatedly found indications of possible negative effects on the psychological well-being of the employee due to the demand for ambidexterity. Keller and Weibler (2015), for example, found higher cognitive tension in ambidextrous individuals caused by the simultaneous execution of the two totally different cognitive processes of exploitation and exploration. Karhu (2017) draws attention to the cognitive penalty that arises when switching between exploitation and exploration tasks. She warns that the need to constantly reorient oneself in the task could lead to feelings of frustration and anger. In fact, neurological studies have shown that exploitation and exploration are two distinct cognitive processes and the constant switching between them is cognitively demanding (Laureiro-Martínez et al., 2015). Furthermore, the danger of role conflict was mentioned as a result of the conflicting expectations arising from the exploitative and explorative tasks (Bonesso et al., 2014). These different types of work stress are widely known for causing physical and mental disorders as well as organisational consequences such as absenteeism and reduced productivity (Ganster & Schaubroeck, 1991; Wright et al., 2007; Wright & Walton, 2003).

The possible positive consequences of the demand for ambidexterity in the form of increased employee motivation as well as the possible negative consequences in the form of several types of stress are discussed in detail in the following.

2.4.3 Motivation

The work context implied by the demand for ambidexterity is thought to offer the employee a high degree of autonomy (the employee decides independently when to engage in exploitative and when to engage in explorative tasks), task diversity (the employee engages in both exploitative and explorative tasks), task identity (the employee not only performs tasks but also improves them) and task significance (the employee can have more influence by implementing improvements) (Parker, 2014). Research based on the job demands-resources (JD-R) theory (A. B. Bakker & Demerouti, 2007), which describes the relationship between job demands, workplace context and employee well-being, has shown that the job resources provided by such a context promoting individual ambidexterity foster

well-being, especially under conditions of high job demands (Marić et al., 2019; Tadić et al., 2015), as placed on employees in ambidextrous jobs. In a similar vein, studies from the perspective of self-determination theory (Deci & Ryan, 2013) have found that the higher level of self-determination experienced by the employee in a context of individual ambidexterity has a positive impact on their psychological well-being (Baard et al., 2004; Deci & Ryan, 2008).

Gibson and Birkinshaw consider another important attribute of a context of individual ambidexterity to be stretch, *"that induces members to voluntarily strive for more, rather than less, ambitious objectives"* (C. Gibson & Birkinshaw, 2004, p. 213). In strategic human resource management theory, practices that give employees a sense of stretch and thus enable them to achieve ambitious goals are considered motivation-enhancing (Faisal Ahammad et al., 2015; T. J. M. Mom et al., 2018; Parker, 2014). Work motivation, in turn, is known to be an important predictor of work-related well-being (Gagné et al., 2015; Nie et al., 2015).

These findings from the different research directions indicate a positive effect of the demand for ambidexterity and the related work context on the motivation and ultimately on the psychological well-being of the employees. However, Raiden, Räisänen and Kinman (2020) explicitly investigated the psychological well-being of employees in ambidextrous jobs and found no such positive correlation. The 14 employees from construction-related departments at Swedish and English universities they interviewed stated that they generally felt unable to meet the demands for ambidexterity placed on them. From this result, the authors concluded: *"The mixed well-being outcomes found are cause for concern and deserve attention"* (Raiden et al., 2020, p. 10).

In summary, it can thus be concluded that the positive impact of the demand for ambidexterity on the motivation and psychological well-being of employees assumed by researchers has not been empirically confirmed to date, but indications of possible negative effects have even been found.

2.4.4 Role conflict

Role conflict is regarded in literature as a specific form of role stress along with role ambiguity (unclear expectations) and role overload (lack of personal resources to fulfil expectations) (Peterson et al., 1995). Role stress, in turn, is one of the most common types of stress in organisational contexts (Fisher, 2001; Sonnentag & Frese, 2003). The potential impact of role stress can be costly for both the individual and the organisation. While individuals may experience job-related tensions and job dissatisfaction, organisations may be affected by performance and quality losses and higher turnover rates (Fisher, 2001; Rizzo et al., 1970; Siegall, 1995). Kahn and colleagues (1964, p. 6) emphasise the destructive toll that role stress can take on the individual in severe cases: *"Conditions of conflict and ambiguity, therefore, are not merely irritating; in persistent and extreme form, they are identity-destroying".*

Bonesso et al. (2014) suggest that the expectations of ambidextrous job roles must be communicated clearly to minimise role ambiguity and conflict. However, it can be assumed that role conflict cannot be prevented completely in the context of individual ambidexterity, especially because exploitation and exploration per se represent conflicting tasks.

2.4.5 Task-related stress

Task-related stress usually occurs when work is time-critical, complex, monotonous, or disrupted by interruptions (Sonnentag & Frese, 2003). Like any form of organisational stress, task-related stress can elicit a devastating effect on employee performance and health (Maslach, Schaufeli & Leiter, 2001). In the context of individual ambidexterity, previous research has found indications of task-related stress occurring as a result of the need to constantly switch between exploitation and exploration (Bidmon & Boe-Lillegraven, 2019).

There is widespread agreement in literature that this constant switch between exploitation and exploration is a central feature of individual ambidexterity (Gupta et al., 2006; Laureiro-Martínez et al., 2015). Even though advocates of paradox theory consider exploitation and exploration as complementary tasks (Andriopoulos & Lewis, 2009; Miron-Spektor et al., 2018; Papachroni, Heracleous & Paroutis, 2015), researchers from various disciplines agree that they are two different activities that cannot be performed simultaneously at the cognitive level (Bidmon & Boe-Lillegraven, 2019; Karhu, 2017; Keller & Weibler, 2015). The present research takes a cognitive perspective and therefore considers individual ambidexterity as a constant rapid alternation between exploitation and exploration.

The theoretical basis is formed by corresponding findings from neurology. Laureiro-Martínez et al. have used functional magnetic resonance imaging (fMRI) to scientifically demonstrate that exploitation and exploration involve different cognitive processes (Laureiro-Martínez et al., 2015). Based on their findings they conclude that it is not possible for individuals to engage in both at the same time (Laureiro-Martínez et al., 2015). They argue that successful individual ambidexterity is not a question of specialising in exploitation and exploration, but of the ability to switch between these activities and recognize the right time to switch (Laureiro-Martínez et al., 2015). This neurological finding is in line with the concept of contextual ambidexterity of Gibson and Birkinshaw. The authors have suggested that the individual employee should divide his time between the conflicting demands (C. Gibson & Birkinshaw, 2004). There is a consensus among researchers that individual ambidexterity is cognitively very demanding (Karhu, 2017; Keller & Weibler, 2015).

Several researchers have addressed the question of how ambidextrous individuals master this cognitive challenge and have found different answers. For example, Eisenhardt et al. (2010) describe the tradeoff between exploitation and exploration as part of a competing cognitive agenda in terms of a single, cognitively sophisticated solution. Good and Michel (Good & Michel, 2013) consider cognitive flexibility to be the mechanism that allows switching between exploitative and explorative activities, thereby enabling individual ambidexterity. Other researchers suggest that ambidextrous individuals possess cognitive complexity, which is the ability to recognise the connections between the basic tensions and identify possible synergies between them (W. Smith & Lewis, 2011). Obviously, all these solutions have in common that they require complex cognitive processes. It is therefore reasonable to assume that depending on personal and organisational factors, task-related stress may occur.

2.4.6 Individual perception and coping with stress

It is important to note that role conflict and task-related stress, like any kind of stress, is not perceived by every individual to the same extent, or as Carroll puts it: *"Stress, like beauty, lies in the eyes of the beholder"* (Carroll, 1992, p. 5). The present research therefore supposes that the impact of the demand for ambidexterity on employees' psychological well-being depends on how they perceive and evaluate the resulting stressors. In literature, the description of individual appraisal and response to stress is often based on Lazarus' (1966) transactional model of stress and coping. In contrast to earlier stress theories, Lazarus suggests that it is not the objective situation that determines stress reaction, but the subjective evaluation by the individual concerned. His framework, which is illustrated in figure 4, is one of the most frequently referenced models in extant literature to describe coping with stressful events. Lazarus considers stress to be a product of the transaction between the individual and the environment: "*Psychological stress refers to a relationship with the environment that the person appraises as significant for his or her well-being and in which the demands tax or exceed available coping resources*" (Lazarus & Flokman, 1986, p. 63).

This definition emphasises the relevance of the two processes *cognitive appraisal* and *coping* as central mediators within the person-environment transaction. Cognitive appraisal describes how people constantly evaluate what is happening to them. Lazarus distinguishes between two stages: primary appraisal and secondary appraisal. In the primary appraisal, the threat of the situation is assessed. The individual judges whether the transaction is positive, irrelevant, or dangerous. Depending on how the person appraises the transaction, different emotions can occur. For example, if a person judges the transaction to be dangerous, he or she may experience emotions such as fear or anxiety. At the same time, somatic symptoms such as an increased heart rate can also become noticeable (Lazarus, Speisman & Mordkoff, 1963). Subsequently, in the secondary appraisal, the ability to cope with the situation is assessed. The individual evaluates what, if anything, can be done to overcome the pressure, prevent damage or improve the prospects of success. Moreover, it is verified whether the situation can be managed with the available coping resources. If the resources are

considered insufficient, a stress reaction is triggered. The result of the evaluation process is a coping strategy based on personal and situational factors. The choice of coping strategy is influenced by the emotions generated in the appraisal process (Folkman & Lazarus, 1988). Lazarus distinguishes between the two basic coping strategies problem-focused coping and emotion-focused coping. Problem-focused coping is about changing the objective external situation. Emotion-focused coping strategies, on the other hand, involve the person changing their thoughts and feelings about the stressful event. This can be done, for example, by the person trying to see the positive aspects or learning from the situation (G. Matthews et al., 2009). Besides, a reappraisal may take place at any time. The person tries to cognitively reevaluate the transaction. As a result, their emotions change, which in turn can lead to the choice of other coping strategies (Gross, 2015; Lazarus, 2006). There is consensus in the literature that both appraisal and the selection of coping strategy are influenced by a number of personality factors (Afshar et al., 2015; Costa Jr. & McCrae, 1990; Folkman, 1984; Shewchuk et al., 1999; Vollrath, 2001).

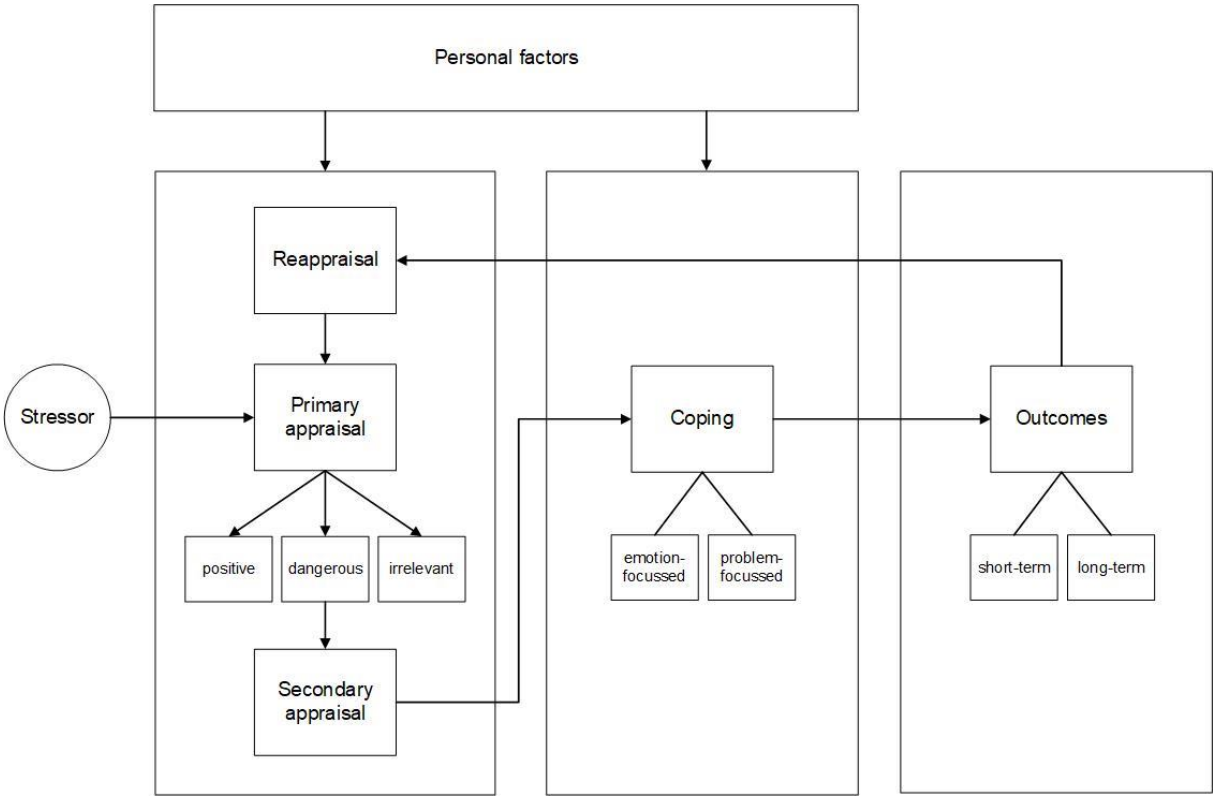


Figure 4: The role of personal factors in the transactional stress model (source: adapted from Lazarus, 2006)

2.4.7 Conclusion and hypothesis

While researchers of work design theory argue that ambidextrous jobs increase employee motivation (Faisal Ahammad et al., 2015; T. J. M. Mom et al., 2018; Parker, 2014) and researchers drawing on job demands and resources (JD-R) theory suggest that a work context conducive to ambidexterity may increase employee well-being (Marić et al., 2019; Tadić et al., 2015), these potential positive effects of the demand for ambidexterity have not been empirically backed up to date (Raiden et al., 2020).

The indications of possible negative effects from the demand for ambidexterity on employees' psychological well-being discussed above are unsupported without empirical evidence. Explicit research results are lacking, with the exception of Keller and Weibler (2015), who empirically demonstrated a positive correlation between managers' ambidexterity and their cognitive strain. However, since it depends on the individual whether a stressor is evaluated as positive or negative (Carroll, 1992; Folkman et al., 1986; Gross, 2015), the question remains open as to how any stress arising from the demand for ambidexterity affects psychological well-being. To the author's best knowledge, Raiden, Räisänen and Kinman (2020) are to date the only ones who have explicitly investigated the effects of the demand for ambidexterity on employees' psychological well-being. However, their study of only 14 employees from construction-related departments in Swedish and English universities did not yield significant results. As such it is important the address this issue in a more structured manner and the following hypothesis is posed:

H1: The demand for ambidexterity has a negative effect on middle managers' psychological well-being.

2.5 Personality

The following sections introduce the theory of personality. The concept and origins of the widely accepted five-factor model of personality, which provides an important theoretical basis for the present research, are discussed. In the central discussion, potential moderating effects of the Big Five personality traits on the relationship between the demand for ambidexterity and the psychological well-being of middle managers are outlined. This provides the theoretical foundation for hypotheses 2 to 6 of this research, which propose such moderating effects of the Big Five personality traits.

2.5.1 Concept and history

As discussed in section 2.4.5, stress researchers agree that appraisal of and coping with stress varies from individual to individual and depends on a number of personality factors (Afshar et al., 2015; Costa Jr. & McCrae, 1990; Folkman, 1984; Shewchuk et al., 1999; Vollrath, 2001). The interest of stress researchers in personality has been greatly stimulated by advances in personality research through

the development of the five-factor model (FFM), a generally accepted taxonomy for classifying personality traits (Neal et al., 2012; Vollrath, 2001). Before the five-factor model became widely known in the early 1990s, researchers were confronted with a bewildering array of personality measurement instruments that interpreted and measured the concept of personality differently, making common communication and comparability of research results almost impossible (John et al., 2008). The development of the five-factor model is thus regarded as an important milestone in the field of personality psychology (McCrae, 2009). With this model, a unified framework has been created to provide a solid, comprehensive basis for research, which has significantly stimulated the study of personality in various fields such as social and organisational psychology, medicine and cross-cultural research (McCrae, 2009; Vollrath, 2001). The Big Five traits have been used to predict many important life outcomes such as physical and mental health, occupational interest and performance, family and romantic relationships, criminal activity, political ideology, and even mortality (Ozer & Benet-Martínez, 2006; Roberts et al., 2007). Overall, the five-factor model is considered one of the most influential models in all of psychology (McCrae, 2009).

The five-factor model is organised hierarchically with five broad factors, or domains, at the top level, each integrating a number of narrow, lower-order traits. The five main dimensions of personality are extraversion, agreeableness, conscientiousness, neuroticism and openness to experience (John & Srivastava, 1999; McCrae et al., 1992). At the level below, there are more specific personality traits, often referred to as facets, for each of the five personality factors (John & Srivastava, 1999). It is known from previous research that many of these facets are related to developmental tendencies, behaviours and life outcomes (Soto & John, 2017a). An overview of the five personality traits as well as the underlying facets is shown in Table 2.

Table 2: The Big Five personality traits. Source: (Costa & McCrae, 2008)

Big Five dimensions	**Facets**
Neuroticism	Anxiety, angry hostility, depression, self-consciousness, impulsiveness, vulnerability
Extraversion	Warmth, gregariousness, assertiveness, activity, excitement seeking, positive emotions
Openness	Fantasy, aesthetics, feelings, actions, ideas, values
Agreeableness	Trust, straightforwardness, altruism, compliance, modesty, tendermindedness
Conscientiousness	Competence, order, dutifulness, achievement striving, self-discipline, deliberation

The five personality factors are not mutually exclusive; personality is formed by the individual manifestations of the different personality traits (McCrae, 2009; Vollrath, 2001). For this reason, some personality researchers argue that the established hierarchical Big Five model is an oversimplified representation that is unsuitable for applied research and that a multidimensional circumplex model would much better reflect the complex structure of personality. The theoretical model of the advocates of the circumplex representation of personality comprises numerous views in each of which two of the Big Five personality factors are juxtaposed as continua and the individual personality characteristics are arranged on this map (Hofstee et al., 1992; Johnson & Ostendorf, 1993; Strus et al., 2014). Hofstee, de Raad and Goldberg (1992) illustrate personality with ten circumplexes consisting of all combinations of the Big Five personality factors. The circumplex of factors I and II is shown as an example in figure 5.

Although the circular conceptualisation of personality may better express the complex interrelationships and overlaps of personality factors than the hierarchical approach, it seems questionable whether the application of such a complex model is even feasible for practical research and especially its statistical data analysis. Thus, the rare use of such models in personality research could be due to their lack of applicability (Arthur et al., 2001). However, the views and arguments of the proponents of the circumplex approach may also be of great interest to researchers applying the classical hierarchical FFM model, as the circumplex model reveals the complex structures and interrelationships of the personality traits that traditional personality researchers often only become aware of during data analysis, when they experience cross-loadings or poor model fits in factor analyses, which are often not attributable to inadequacies of the measurement instrument, but rather lie in the nature of the broad concept of personality itself (Bäckström, 2007; Beauducel & Wittmann, 2005; Carciofo, Yang, Song, Du, & Zahng, 2016; McCrae, Robert R. Zonderman et al., 1996; Steenkamp & Maydeu-Olivares, 2022).

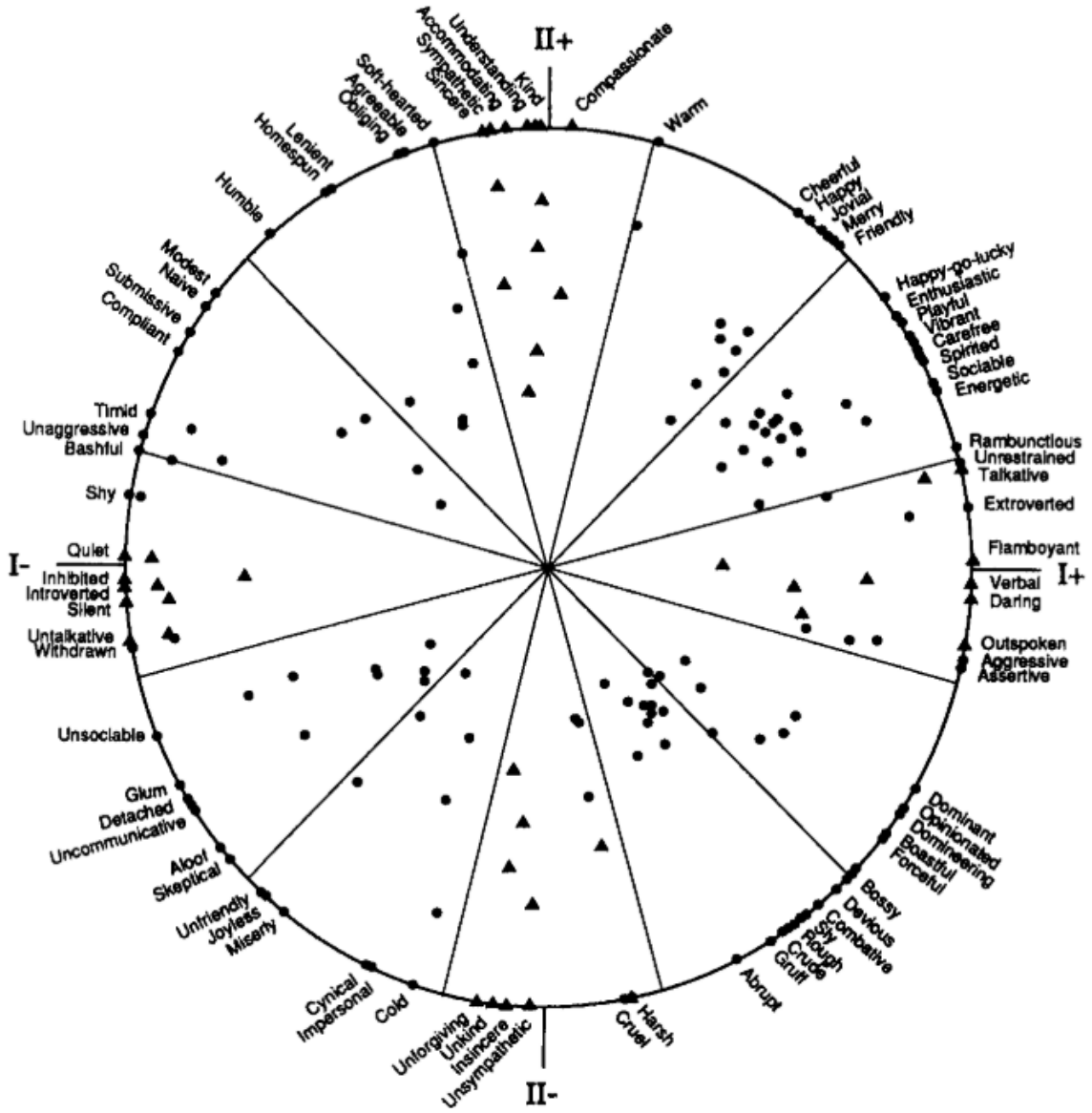


Figure 5: Exemplary excerpt from a circumplex personality model. Source (Hofstee et al., 1992, p. 149)

The five-factor model was developed following the lexical approach, which is based on the idea that *"the most important individual differences in human transactions will come to be encoded as single terms in some or all of the world's languages*" (Goldberg, 1990, p. 1216). Applying this approach, in the 1930s Allport and Odbert (1936) searched Webster's New International Dictionary for personality-relevant terms and eventually settled on a list of stable personality traits. This initial list was then refined and validated by various researchers over the following five decades (John et al., 1988). There has been some criticism of the five-factor model or rather its underlying lexical approach arguing that "lexical analyses are based on questionable conceptual and methodological assumptions, and have achieved uncertain results." (Block, 1995, p. 187). However, despite the occasional critical voices, the FFM is to date the most widely used and researched personality taxonomy (Barel et al., 2020; M. M. Smith et al., 2019; Widiger & Crego, 2019).

2.5.2 The potential moderating effects of personality

Research on individual ambidexterity has so far paid little attention to the potential influence of personality. Among the few exceptions are Keller and Weibler (2014) and Zacher, Robinson and Rosing (2016), who have investigated the impact of the personality traits openness to experience and conscientiousness on the ambidexterity behaviour of employees. These studies found that managers who are highly conscientious prefer to engage in exploitative work tasks, while managers who are highly open to experience prefer explorative work tasks. Furthermore, Keller and Weibler (2015) found a positive moderating effect of conscientiousness and a negative moderating effect of openness to experience on the relationship between individual ambidexterity and cognitive strain. They justify their observation in the idea that individuals who are highly open to experience suffer less cognitive strain from the conflicting demands and constant alternation between exploitation and exploration due to their propensity for divergent thinking and behavioural flexibility, whereas in highly conscientious individuals, who have a strong tendency towards accuracy and reliability, the opposing demands cause conflicts and high cognitive strain.

The focus on the two personality traits openness to experience and conscientiousness in the individual ambidexterity theory is motivated by insights from learning as well as innovation and creativity theory, which conceptually have strong similarities with individual ambidexterity theory (Andriopoulos & Lewis, 2009; March, 1991; Rosing, Frese, & Bausch, 2011; Schad, Lewis, Raisch, & Smith, 2016; Tushman & O'Reilly, 1996). From learning theory it is known that openness to experience is associated with creativity, curiosity, divergent thinking and attitudinal and behavioural flexibility, while conscientiousness is associated with more goal-oriented learning behaviour (Keller & Weibler, 2014; March, 1991). In innovation and creativity research, there is broad agreement that people who are open to experience are more innovative and creative than those who score lower on this personality trait (Bledow et al., 2009; George & Zhou, 2001; Hammond et al., 2011; Reiter-Palmon et al., 2012; Zacher et al., 2016).

Overall, it can be concluded that research on the potential role of personality in individual ambidexterity is still in its infancy. The few existing studies are based on findings from related research areas and are limited to the two personality traits of openness to experience and conscientiousness.

The situation is different in well-being research. Research has shown that personality is an important predictor of subjective well-being and sometimes more strongly correlated with it than life circumstances (Deneve & Cooper, 1998; R. E. Lucas & Diener, 2009). Furthermore, there is widespread agreement among stress researchers that personality strongly influences the appraisal, coping with and outcome of stress (Afshar et al., 2015; Bolger & Schilling, 1991; Shewchuk et al., 1999; Taylor & Kluemper, 2012; Vollrath & Torgersen, 2000). Thus, as discussed in section 2.4.6 and illustrated in figure 4, personality also plays an important role in Lazarus' (1966) transactional model of

stress and coping. Numerous studies have found that the outcome of exposure to external factors (stressors) varies from individual to individual (Bolger & Schilling, 1991; Darshani, 2014; Friedman & Kern, 2014; Taylor & Kluemper, 2012).

Such individual differences are often expressed with the moderation hypothesis, according to which certain personality traits can mitigate or amplify the effects of negative events for the individual (Bolger & Zuckerman, 1995; Darshani, 2014; G. Matthews et al., 2009). In path-analytic terms, a moderator effect is described as follows: "*Moderation occurs when the effect of an independent variable on a dependent variable varies according to the level of a third variable, termed a moderator variable, which interacts with the independent variable*" (Edwards & Lambert, 2007, p. 1). Moderation thus differs from mediation, which refers to the effect of an independent variable being transmitted to a dependent variable by a third variable, the so-called mediator variable (Edwards & Lambert, 2007). In simple terms, it can be concluded that: "*Whereas moderator variables specify when certain effects will hold, mediators speak to how or why such effects occur.*" (Baron & Kenny, 1986, p. 1176). This distinction is clearly illustrated by Bolger and Zuckerman's (1995) framework for studying personality in the stress process, which conceptualises the influence of personality on exposure to stressors as a mediation effect and the influence of personality on emotional or physical responses to a stressful event as a moderation effect. In contrast to the mediator effect, which has hardly been demonstrated so far, the moderating effect of personality in the stress process is widely known and recognised in stress research (Bolger & Zuckerman, 1995).

Based on the previously discussed comprehensive findings from well-being research as well as the first indications from individual ambidexterity research, the present research hypothesises that personality also moderates the relationship between the demand for ambidexterity and the psychological well-being of middle managers. The expected influences of each of the personality traits are discussed in detail in the following.

2.5.3 Openness to experience

It is widely recognised that personality traits strongly influence vocational interests (Costa, McCrae & Holland, 1984; Ryan et al., 2005). Therefore, it can be assumed that individuals have a different propensity for exploitative and explorative work, depending on their personality. Keller and Weibler (2014) have investigated this relationship between ambidexterity and the Big Five traits in 233 managers. As mentioned before, the results show that managers who are highly conscientious prefer to engage in exploitation tasks. On the other hand, managers who are highly open to experience prefer to engage in exploration tasks. This finding was confirmed in a later study by Zacher, Robinson and Rosing (2016).

This result is consistent with findings from research on innovation (or creativity) and learning, which are concepts closely related to individual ambidexterity (Andriopoulos & Lewis, 2009; March, 1991; Rosing, Frese, & Bausch, 2011; Schad, Lewis, Raisch, & Smith, 2016; Tushman & O'Reilly, 1996). In these contexts, the influence of personality traits has already been empirically explored. In particular, the personality traits openness to experience and conscientiousness have been repeatedly identified as important individual differentiators for creativity and innovation. Individuals who are open to experience are perceived as curious, creative, and imaginative. They are receptive to the beauty of art, music, literature, or nature and exhibit strong emotional feelings. Variety in their lives and new experiences are important to these individuals (Costa & McCrae, 2008; John & Srivastava, 1999).

Research has repeatedly shown that people who are open to experience are more innovative and creative than those who are low on this personality factor (Bledow et al., 2009; George & Zhou, 2001; Hammond et al., 2011; Reiter-Palmon et al., 2012; Zacher et al., 2016). Furthermore, previous research has shown that people who are highly open to experience are predisposed to divergent thinking and are more comfortable with the constant switch between exploration and exploitation that is required in ambidextrous jobs than people who possess less of these two personality traits (George & Zhou, 2001; Keller, 2012; McCrae, 1996). These observations suggest that the constant shifting between engagement in exploitative and explorative activities required by ambidexterity creates less strain for people with a high degree of openness to experience than for people with whom this personality factor is less prominent. Indeed, such a negative moderating effect of openness to experience on the impact of ambidexterity on cognitive strain was confirmed in Keller and Weibler's (2015) study of German managers. On this basis, the following hypothesis is proposed:

H2: Openness to experience positively moderates the impact of the demand for ambidexterity on middle managers' well-being.

2.5.4 Conscientiousness

While openness to experience is often associated with creativity and innovativeness, conscientiousness is widely recognised as the most important predictor of job performance and occupational success (Carter et al., 2016; Lin et al., 2015; Wilmot & Ones, 2019). Conscientiousness is associated with reliability, self-discipline and striving for achievement. Conscientious people act dutifully and are well organised. They prefer to act in a planned and thoughtful manner rather than spontaneously (John & Srivastava, 1999). However, conscientiousness is also described in literature as a double-edged sword, as it fosters performance, but on the other hand also intensifies stress reactions of employees (Lin et al., 2015). The personality factor was further found to promote emotional exhaustion and burnout (Abbas & Raja, 2019; Anvari et al., 2011; Hudek-Knežević et al., 2011; Keller & Weibler, 2015).

While as discussed above Keller and Weibler found that conscientiousness positively influences exploitative work behaviour, they also found that conscientiousness increases cognitive strain caused by the demand for ambidexterity (Keller & Weibler, 2015). Based on these findings, the following hypothesis is raised:

H3: Conscientiousness negatively moderates the impact of the demand for ambidexterity on middle managers' well-being.

2.5.5 Neuroticism

Neuroticism, which describes a person who is anxious, nervous, insecure, slightly vulnerable and prone to negative feelings, is, together with extraversion, the most discussed personality trait in research on subjective well-being or happiness (Costa & McCrae, 1980). Previous research has found a strong correlation between neuroticism and negative affect (Diener et al., 1999), which is a key component of poor psychological well-being (Larsen, 2009). There is broad consensus in literature that neuroticism is the most important negative predictor of well-being, happiness and quality of life (Steel et al., 2008).

Moreover, neurotic individuals are known to be prone to stress (Costa & McCrae, 2008; Vollrath, 2001). Numerous studies have found a positive effect from neuroticism on stress vulnerability (Afshar et al., 2015; Bolger & Schilling, 1991; Vollrath, 2001), a finding confirmed in research specifically on role conflict (Taylor & Kluemper, 2012). Furthermore, research indicates that neurotic individuals are also more at risk for the long-term consequences of stress. Studies have shown that neuroticism positively influences the development of mental exhaustion and burnout (Zellars et al., 2000). These strong indications from research suggest that people who tend to neuroticism may feel more stressed and may have more difficulty dealing with task-related stress or role conflict as it may result from the demand for ambidexterity.

Furthermore, previous studies have found a negative influence of neuroticism on creativity and innovation (Memarzadeh Tehran & Khaledi, 2014). As discussed earlier, creativity and innovation are central features of explorative work behaviour (March, 1991). Thus, Keller's (2012) finding that high levels of neuroticism have an inhibiting effect on explorative work behaviour is not surprising. This leads the present research to hypothesise that high levels of neuroticism not only impede coping with the potential tension caused by the demand for ambidexterity, but also impede the engagement in ambidexterity as such. Therefore, the following hypothesis is proposed:

H4: Neuroticism negatively moderates the impact of the demand for ambidexterity on middle managers' well-being.

2.5.6 Agreeableness

Individuals who are rich in agreeableness demonstrate friendliness and are characterised by altruism and helpfulness. These people are perceived as considerate, cooperative and sympathetic (John & Srivastava, 1999). There is less research on the influence of the personality trait of agreeableness in well-being theory than on other personality traits and, to the author's knowledge, there has been no research on the influence of agreeableness in individual ambidexterity theory. Well-being researchers have found a direct positive effect of agreeableness on psychological well-being (Huppert & Johnson, 2010; Schultz & Schultz, 2016). McCrae and Costa (1991) further found in their study that high levels of agreeableness increased positive affect and decreased negative affect.

Vlerick (2001) concludes in his broad study of over 500 nurses and almost 200 secondary-school teachers that employees high in neuroticism and low in agreeableness are the group most at risk of burnout. With this result, he replicated the findings from studies with other samples of doctors (Deary et al., 1996), school psychologists (Huebner, 1994) and occupational therapists (Piedmont, 1993). This finding is not limited to the healthcare sector, with identical observations made in the hotel industry (Kim, Shin & Umbreit, 2007). Taylor and Kluemper (2012) further found that agreeable individuals are less likely to react to role stress with aggression. This may indicate that role stress causes fewer negative emotions and, thus, less psychological stress in people who are rich in agreeableness.

In summary, research shows that agreeable individuals generally are less receptive to stress, particularly role stress, and less prone to developing long-term symptoms such as mental exhaustion and depression. Thus, the following hypothesis is proposed:

H5: Agreeableness positively moderates the impact of the demand for ambidexterity on middle managers' well-being.

2.5.7 Extraversion

Extraverted individuals are perceived as active, energetic, sociable, and talkative. They have a high level of assertiveness and often prefer to take on the leadership role rather than the follower role. Stimulation and thrills hold great appeal for them, and they often experience strong feelings of happiness and joy (Costa & McCrae, 2008; John & Srivastava, 1999). Extraversion is often considered an antagonist of neuroticism in literature (Tellegen & Waller, 2008). This is because extraversion correlates equally strongly with positive affect as neuroticism does with negative affect (Steel et al., 2008). In literature, extraversion is generally associated with a tendency towards optimism (Costa & McCrae, 1992).

Previous research has further found a significant negative correlation between extraversion and occupational stress (Desa et al., 2014). The finding of Bakker, Demerouti and Sanz-Vergel that extraverts tend to evaluate problems positively and are more likely to perceive high job demands as a welcome challenge could contribute to their lower perception of stress (2014). Based on these findings, this dissertation raises the following hypothesis:

H6: Extraversion positively moderates the impact of the demand for ambidexterity on middle managers' well-being.

2.6 Organisational climate

In addition to personal factors, the work environment has been identified as the most important antecedent for individual ambidexterity (C. Gibson & Birkinshaw, 2004; C. L. Wang & Rafiq, 2014). For example, an organisational context characterised by stretch and discipline (performance orientation, clear goals and promotion of employees) as well as support and trust (fairness and involvement of employees) was identified as conducive to contextual and individual ambidexterity (Y. Y. Chang & Hughes, 2012; C. Gibson & Birkinshaw, 2004; Schnellbächer et al., 2019). Wang and Rafiq (2014) have found that the cultural characteristics of organisational diversity (employees have different backgrounds and skills, different viewpoints are accepted and the development of alternative solutions is encouraged) and a shared vision (the business unit's objectives are clear to and supported by all employees) are conducive to individual ambidexterity. Other researchers have identified the attributes of empowerment (employees autonomously decide how best to divide their resources between exploitation and exploration tasks), team support (the individual's contribution is valued within the team and their well-being is nurtured) and transformational leadership (the leader is able to increase the importance and value of the task as perceived by followers, promote collective goals and activate higher order needs) as individual-level antecedents for ambidexterity (Yu et al., 2013). Furthermore, knowledge exchange, adhocracy, clan culture and organic structure have been identified as climate characteristics that promote ambidexterity (Ajayi et al., 2017). Finally, psychological safety has been repeatedly identified as an important antecedent to individual ambidexterity (Nemanich & Vera, 2009; Rao-Nicholson et al., 2016).

However, there is no widely accepted definition of a climate that promotes ambidexterity. This is probably not least due to the fact that the term *climate* is not used uniformly in the literature (N. R. Anderson & West, 1998; Isaksen & Akkermans, 2011) and is conceptualised differently (Mathisen & Einarsen, 2004; Patterson et al., 2005). The current state of organisational climate research and the debates existing in literature regarding the conceptualisation of organisational climate are discussed in the following sections. Furthermore, due to the lack of insights on the impact of organisational climate on ambidexterity, the findings from the related research areas of innovation and creativity are discussed. Finally, hypotheses for the present research are derived from these findings.

2.6.1 Definition and conceptualisation

James and Jones (1974) suggest distinguishing between psychological and organisational climate. Psychological climate has been defined as *"the individual employee's perception of the psychological impact of the work environment on his or her own well-being"* (Glisson & James, 2002, p. 769). While early climate research entailed debating over whether climate should be regarded as an organisational condition or individual perceptions, today, corresponding with this definition, most researchers treat it as a perceptual condition (Kuenzi & Schminke, 2009). *Organisational climate* is described as the summary of perceptions on which all employees in the organisational unit agree (Jones & James, 1979). This distinction helps answer another fundamental question in climate research, namely whether climate is an attribute at the individual or organisational level (Glick, 1985). Kuenzi and Schminke conclude: *"the origins of organizational climate lie in individual perceptions; however, it is a property of the unit"* (Kuenzi & Schminke, 2009, p. 638).

Another debate exists in the literature on the delimitation between climate and culture (Denison, 1996). This is despite the fact that research on these two different concepts has developed largely independently of each other (Glisson & James, 2002). Denison (1996) notes that the literature superficially largely agrees on the delimitation between these two concepts. He describes *climate* as a temporary phenomenon that the organisation's members subjectively perceive and can be manipulated relatively easily by people with power and influence. In contrast, he considers *culture* to be deeply rooted in the company's history – collective and largely resistant to attempts at manipulation. However, Denison warns that although the distinction between climate and culture may seem superficially clear, research often conflates them when it comes to depth. Thus, he concludes that the difference between culture and climate is more a question of interpretation than of phenomenon, as both research streams address a common phenomenon, namely "*the creation and influence of social contexts in organizations"* (Denison, 1996, p. 646). In line with the broad understanding of literature, this dissertation considers climate as the work environment directly perceived by the individual, while culture is seen as the work environment perceived by all members of the organisation.

2.6.2 The potential moderating effects of climate

To date, there have been few studies that have explicitly investigated the role of organisational climate in individual ambidexterity. Prieto and Pilar (2012), in their study of almost two hundred Spanish companies, found a social climate characterised by shared cognitions, trust, and cooperative networks that exist among employees to be conducive to individual ambidexterity. They conclude that such social climate fosters trust and cooperation among employees, facilitating the transformation and

exploitation of existing knowledge on the one hand, and the acquisition of new knowledge to explore the company's strategic options on the other. Chang (2016) found in his study of electronic engineering firms that an empowerment climate promotes individual ambidexterity behaviour among employees, whereby "*Empowerment climate refers to the sharing of information, the creation of autonomy within a larger structure and the formation of a hierarchy within the organization.*" (Y. Y. Chang, 2016, p. 426).

Furthermore, Antonio et al. (2021) found a positive moderating effect of a team climate characterised by vision, participative safety, task orientation and support for innovation on the relationship between leader behaviour and ambidexterity. Such a climate is widely recognised in the research field of innovation as conducive to innovation (Isaksen & Akkermans, 2011; Sarros et al., 2008). These four innovation-enhancing climate factors have been identified by Anderson and West (1996), who are among the most cited climate researchers in the field of innovation. They understand *vision* as how clearly defined, shared, achievable and valued the team's objectives and vision are, *participative safety* as how participative the team's decision-making processes are and to what extent team members feel psychologically safe enough to present new ideas, *task orientation* as the extent to which the team is committed to achieving excellence in quality and task performance, and to applying procedures for constructive progress control) and *support for innovation* as the extent to which expectations and support for innovation attempts is expressed and practical support is provided. Their measuring instrument, the Team Climate Inventory (TCI), has been recognised widely and validated through numerous studies (Mathisen & Einarsen, 2004).

The significance of team climate is also well known in the research on work-related well-being. Several studies have identified the perceived team climate as a significant predictor of individual employees' psychological well-being (Cheng et al., 2013; Mafini, 2016; Paulin & Griffin, 2016). Moreover, it has been shown that a positively perceived team climate significantly reduces work stress, depression and anxiety (Dackert, 2010; Rose & Schelewa-Davies, 1997). Furthermore, Cheng et al. (2013) have identified team climate as a negative moderator in the relationship between the hiding of emotions and burnout among nurses. Rafferty and Jimmieson (2010) further found evidence that a team climate characterised by a shared understanding of change processes has a significantly negative influence on role ambiguity, role overload and stress, and a significantly positive influence on the quality of work life.

All in all, previous research suggests that in the same way that individual differences in the employee themselves - expressed in terms of personality - also differences in the employee's work environment - expressed in terms of team climate - can significantly influence their ambidexterity behaviour as well as their psychological well-being (Antonio et al., 2021; Y. Y. Chang, 2016; Cheng et al., 2013; Mafini, 2016; Paulin & Griffin, 2016; Prieto & Pilar Pérez Santana, 2012). Based on these findings, the present research hypothesises that, in addition to the Big Five personality traits, also the different team climate dimensions, namely vision, participative safety, task orientation and support for innovation,

have a moderating influence on the relationship between the demand for ambidexterity and employee psychological well-being. The potential influences of each team climate dimension are discussed in the following.

2.6.3 Vision

One of the most frequently mentioned characteristics of a context conducive to ambidexterity is a shared vision (Bonesso et al., 2014; O'Reilly & Tushman, 2011; Raisch & Birkinshaw, 2008). Thereby, vision is defined as follows: "*Vision is an idea of a valued outcome which represents a higher order goal and a motivating force at work*" (M. A. West, 1990, p. 310). Wang and Rafiq (2014) consider a shared vision as a central element of an ambidextrous organisational culture and as an important prerequisite for exploitation due to its converging effect. Jansen et al. (2008) suggest that the strategic direction provided by a shared vision and the common goals and values can resolve the tensions arising from the conflicting demands of exploitative and explorative activities.

Huang et al. (2017) found that a shared vision has a negative moderating effect on the negative relationship between career growth opportunities and emotional exhaustion. In other words, while career growth opportunities reduce emotional exhaustion, this effect is amplified by a shared vision. Such a moderating effect of shared vision on the relationship between a context and outcome has also been found in other studies. For example, Arnold and Walsh (2015) found that a shared vision established through transformational leadership negatively moderates the relationship between customer incivility and employee well-being. Hofhuis et al. (2018) found a positive moderating effect of shared vision on the relationship between functional diversity and team effectiveness, and Strese et al. (2018) on the relationship between CEO inventiveness and radical innovation in small and medium-sized enterprises.

Based on the findings of these previous studies, the present research proposes that a shared vision also mitigates the potential negative impacts of the demand for ambidexterity on employee well-being. Accordingly, the following hypothesis is raised:

H7: Vision positively moderates the impact of the demand for ambidexterity on middle managers' well-being.

2.6.4 Participative safety

Participative safety is another contextual characteristic often identified in literature as an important precondition to ambidexterity as well as the closely related concepts of creativity, innovation and organisational learning (Ajayi et al., 2017; N. R. Anderson & West, 1998; A. C. Edmondson, 2002; Fairchild & Hunter, 2014; Somech & Drach-Zahavy, 2013). Participative safety has been defined as

follows: *"Participativeness and safety are characterized as a single psychological construct in which the contingencies are such that involvement in decision-making is motivated and reinforced while occurring in an environment which is perceived as interpersonally non-threatening."* (M. A. West, 1990, p. 311). Participatory safety is closely related to the concept of psychological safety, which has been defined as "*a shared belief held by members of a team that the team is safe for interpersonal risk taking*" (A. Edmondson, 1999, p. 354) and the terms are often used interchangeably in literature (Somech & Drach-Zahavy, 2013).

Numerous studies have found moderating effects of participative safety and psychological safety on the relationships between antecedent conditions, such as need for innovation or learning, and the respective outcomes (A. C. Edmondson & Lei, 2014; Newman et al., 2017). For example, Bradley et al. (2012) examined the moderating effect of psychological safety on the relationship between task conflict and team performance and found that task conflict had a positive effect on team performance only when psychological safety was high. Gibson and Gibbs (2006) examined the impact of virtuality (geographic dispersion, electronic dependence, dynamic structure and national diversity) on team innovation and the moderating effect of psychological safety in two studies. Their results revealed negative direct effects of the three virtuality dimensions of geographic dispersion, electronic dependency, and national diversity on team innovation. They further found a negative moderating effect of psychological safety, which was able to mitigate the negative influences of virtuality on team innovation. Lovelace, Shapiro and Weingart (2001) found a moderating effect of participative safety on the relationship between task disagreement and team performance. Their results suggest that the negative effects of task disagreement on team performance can be mitigated by team members feeling free to express task-related doubts. Tangirala, Kamdar, Venkataramani and Parke (2013) found a moderating influence of psychological safety on the relationship between performance orientation and role conceptualisation, which they define as the extent to which employees consider their voice as part of their personal job competence. As their results indicate, performance orientation generally has a negative effect on role conceptualisation, but this negative relationship is mitigated when employees perceive their environment as psychologically safe.

Since the moderating effect of participative safety on the relationship between context and demands and their outcomes has been demonstrated in numerous studies, the present research proposes that participative safety may also positively influence the relationship between the demand for ambidexterity and the psychological well-being of the employee. Thus, the following hypothesis is raised:

H8: Participative safety positively moderates the impact of the demand for ambidexterity on middle managers' well-being.

2.6.5 Task orientation

Task orientation, which is also referred to in literature as *climate for excellence* (M. A. West, 1990), is also frequently mentioned as a characteristic of a context that is considered to be conducive to ambidexterity and innovation (N. Anderson & West, 1996; Hülsheger et al., 2009; Rosing et al., 2010). It is described as: *"A shared concern with excellence of quality of task performance in relation to shared vision or outcomes, characterized by evaluations, modifications, control systems and critical appraisals."* (M. A. West, 1990, p. 313). Teams that are high in task orientation strive for the highest achievable standards of performance and seek to continuously improve the quality of decisions and ideas by reflecting on their goals, strategies and procedures (Hülsheger et al., 2009).

Task orientation is considered an important precondition for ambidexterity as well as for the closely related concepts of innovation and creativity (N. R. Anderson & West, 1998; Hülsheger et al., 2009; Rosing et al., 2010; Somech & Drach-Zahavy, 2013). Some studies even found task orientation to be a stronger predictor of innovation and performance than the other three dimensions of the team climate for innovation, which are discussed in this section (Bain et al., 2001; Dackert, 2010). Jansen et al. (2016) found in their study of product development teams from IT and pharmaceutical companies in five European countries that supportive leadership behaviour by managers that emphasises task orientation promotes ambidexterity behaviour in the team. Bain, Mann and Pirola-Merlo (2001) have studied the relationship between team climate and project team innovation and performance. As their results indicated, task orientation, with its ability to encourage the team to focus its energy and attention on task accomplishment, is the team climate factor that best predicts innovation and performance. Furthermore, Ma and Corter (2019) manipulated task orientation in an experiment by informing the treatment group but not the control group in advance of monetary and social performance rewards. The result of these manipulations was significantly higher scores on creativity for the treatment group, suggesting that high levels of task orientation are conducive to creativity.

In addition to its beneficial influence on ambidexterity and the related concepts of innovation and creativity, task orientation has also been found to be conducive to well-being (Balaguer et al., 2017; Dackert, 2010). Dackert (2010) found from her survey of geriatric auxiliary nurses and nurses' aides in Sweden that a team climate characterised by strong task orientation can improve the well-being of team members and reduce their stress reactions. Balaguer, Duda and Castillo (2017) found from their survey of almost a thousand Spanish pupils between the ages of 11 and 16 that a school climate characterised by a high level of task orientation positively influences students' satisfaction at school and negatively influences students' boredom at school. The study further found indirect positive effects of task orientation on life satisfaction, healthy food consumption and physical activity, and indirect negative effects of task orientation on tobacco consumption, alcohol consumption and marijuana consumption.

Besides the direct influences of task orientation on ambidexterity, innovation, creativity and well-being, several studies have found moderating influences of task orientation (Jansen et al., 2016; Rosing et al., 2010; Somech & Drach-Zahavy, 2013). For example, from their survey of R&D teams, Eisenbeiss, van Knippenberg and Boerner (2008) found a moderating effect of climate for excellence - which, as mentioned above, conceptually corresponds to task orientation - on the relationship between support for innovation and team innovation. As their results revealed, support for innovation provided by transformational leadership was only effective in increasing team innovation when climate for excellence was high. Somech and Drach-Zahavy (2013) found that an innovation climate characterised by a high level of task orientation moderates the relationship between team creativity and innovation implementation in that team creativity only impacts innovation implementation when the level of innovation climate characterised by task orientation is high; this relationship was not found when the level of innovation climate was low. Rosing, Rosenbusch and Frese (2010) investigated the relationship between leadership and innovation on the basis of a comprehensive meta-analysis of the existing literature. They found a positive relationship with innovation for some leadership styles, but mixed results for others. Based on these observations, they concluded that these leadership styles are not consistently related to innovation, but are dependent on moderating conditions, with a high climate for excellence that ensures high task orientation being one such potential moderator. Furthermore, Jansen, Kostopoulos, Mihalache and Papalexandris (2016) found in their survey of 87 product development teams that supportive leadership, which places a strong focus on task orientation, positively moderates the relationship between team cohesion and ambidexterity, and negatively moderates the relationship between team effectiveness and ambidexterity.

Since task orientation has been repeatedly identified in previous research as an important contextual factor that can significantly influence innovation, well-being and performance outcomes, the present research suggests that task orientation also influences the impact of the demand for ambidexterity on the psychological well-being of the employee. This leads to the following hypothesis:

H9: Task orientation positively moderates the impact of the demand for ambidexterity on middle managers' well-being

2.6.6 Support for innovation

Support for innovation refers to: "*the expectation, approval and practical support of attempts to introduce new and improved ways of doing things in the work environment*" (M. A. West, 1990, p. 38). Numerous studies have empirically demonstrated a positive correlation between a team climate characterised by support for innovation and employee creativity and innovativeness (Bain et al., 2001; Eisenbeiss et al., 2008; Jaiswal & Dhar, 2015; Somech & Drach-Zahavy, 2013). Furthermore, support for innovation was found to be associated with lower levels of work stress, depression and anxiety (Rose & Schelewa-Davies, 1997). Leung et al. (2011) further found a negative moderating effect of

support for innovation on the relationship between role stress and innovative performance. They came to the conclusion that role stress generally leads to a reduction in the physical and psychological resources that can be invested in innovative activities, but that context variable of perceived support for innovation strengthens these resources and is thus able to buffer the negative effects of role stress.

The concepts of innovation and ambidexterity are known to be closely related (Andriopoulos & Lewis, 2009; March, 1991; Rosing, Frese, & Bausch, 2011; Schad, Lewis, Raisch, & Smith, 2016; Tushman & O'Reilly, 1996). The same is true for the concepts of performance and well-being (Hersey, 1932; Wright et al., 2007). The present research therefore suggests that support for innovation has a similar buffering effect on the relationship between tensions caused by the demand for ambidexterity and employees' psychological well-being as it does on the relationship between role stress and job performance. This leads to the following hypothesis:

H10: Support for innovation positively moderates the impact of the demand for ambidexterity on middle managers' well-being.

2.7 Conclusion and research model

The process of individual ambidexterity, which is simultaneous on the action level, involves two different activities on the cognitive level that cannot be carried out simultaneously (Bidmon & Boe-Lillegraven, 2019; Karhu, 2017; Keller & Weibler, 2015). From the perspective of cognitive psychology, individual ambidexterity is therefore considered a constant switch between exploitation and exploration (Laureiro-Martínez et al., 2010). Researchers agree that individual ambidexterity is cognitively challenging for the employee (Bonesso et al., 2014; Sok et al., 2016; Tempelaar & Rosenkranz, 2017). Thus, it is not surprising that previous research has found indications of the occurrence of various forms of stress as a result of the demand for ambidexterity (Bonesso et al., 2014; Karhu, 2017; Keller & Weibler, 2015; Laureiro-Martínez et al., 2015). There are indications in literature that work-related stress may have a negative impact on employees' psychological well-being (Lovallo, 2015; Schaufeli, 2004). Based on this theoretical foundations, hypothesis H1 was raised, which predicts a negative influence from the demand for ambidexterity on employee's psychological well-being.

Furthermore, previous research has identified organisational and personal factors that influence the achievement of individual ambidexterity as well as the psychological well-being of the employee. This research therefore suggests that the demand for ambidexterity may particularly have a negative impact on employee well-being if the supportive organisational and personal conditions are not present or are inadequate. The present research is therefore guided by the hypothesis that these supporting organisational and personal factors, namely the five personality traits according to the Five Factor Model, as well as the team climate, have a moderating influence on the impact of the demand for ambidexterity on employee well-being. Concretely, the present research hypothesises that the

personality traits conscientiousness and neuroticism negatively moderate the impact of the demand for ambidexterity on employee well-being and that the personality traits openness to experience, agreeableness and extraversion as well as the four dimensions of team climate have a positive moderating effect. The hypotheses are summarised in Table 3.

Table 3: Hypotheses

Hypotheses	
H1	The demand for ambidexterity has a negative effect on middle managers' psychological well-being.
H2	Openness to experience positively moderates the impact of the demand for ambidexterity on middle managers' well-being.
H3	Conscientiousness negatively moderates the impact of the demand for ambidexterity on middle managers' well-being.
H4	Neuroticism negatively moderates the impact of the demand for ambidexterity middle managers' well-being.
H5	Agreeableness positively moderates the impact of the demand for ambidexterity middle managers' well-being.
H6	Extraversion positively moderates the impact of the demand for ambidexterity on middle managers' well-being.
H7	Vision positively moderates the impact of the demand for ambidexterity on middle managers' well-being.
H8	Participative safety positively moderates the impact of the demand for ambidexterity on middle managers' well-being.
H9	Task orientation positively moderates the impact of the demand for ambidexterity on middle managers' well-being.

The resulting research model, which serves as the conceptual model and test framework for the following research, is presented in figure 6.

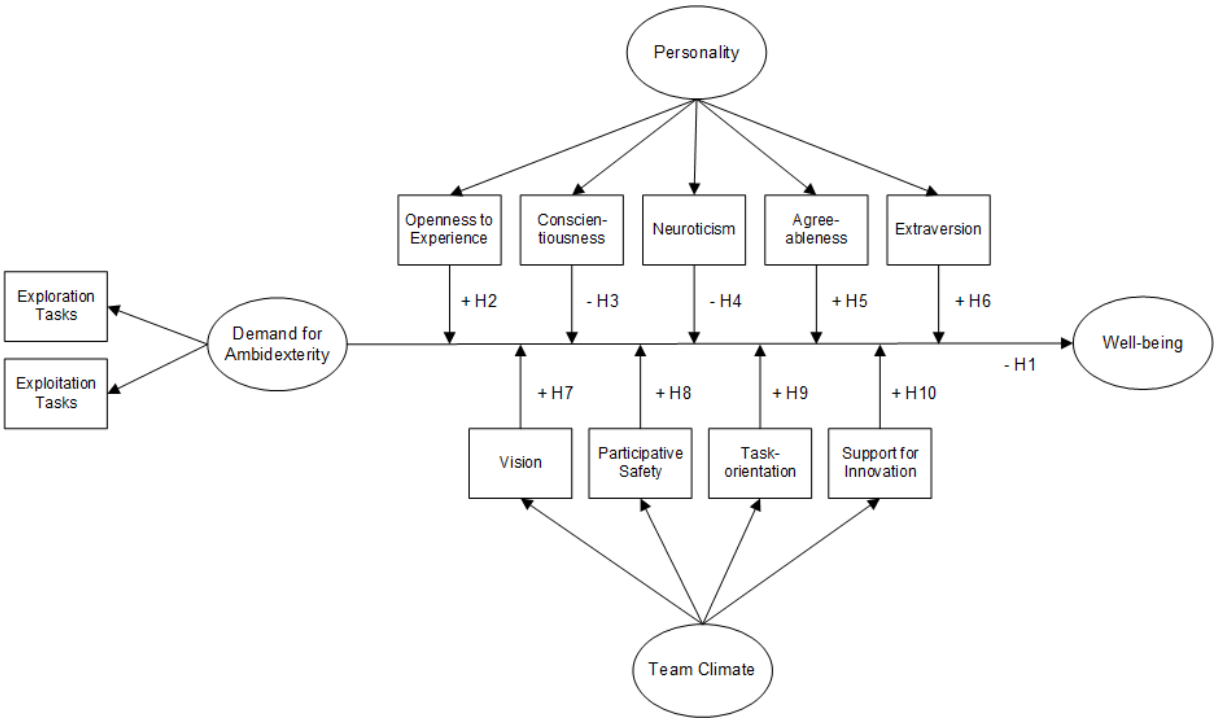


Figure 6: Research model adopted for the present research

3. Methodology

This chapter justifies the strategy and methodology employed in this research. The chapter begins with a discussion of the philosophical considerations that justify the adoption of a post-positivist research paradigm. This is followed by a discussion of the research design and strategy, chosen in consideration of the research problem and the research paradigm. Subsequently, the sampling strategy is outlined. Finally, the development and administration of the research instrument is thoroughly discussed. Since the chosen sampling strategy requires the translation of the research instrument, emphasis is also placed on the translation process. Finally, the pre-test and pilot test of the research instrument are discussed, and the results are outlined. The chapter ends with a discussion of the ethical considerations constituting an important basis for this research.

3.1 Philosophical considerations

Good research requires that researchers are absolutely aware of the assumptions of the paradigms in which they are working, as they have a significant impact on the conduct of the enquiry (Creswell, 2007; Creswell & Creswell, 2018). But paradigms do not only influence one's own research, but also the exchange with other researchers by providing the basis for dialogue (Patton, 2002, p. 134). As Patton explains, differences in fundamental beliefs and values can lead to barriers between researchers or even to debates. In fact, there are numerous paradigm debates in business and management research (Bryman, 2012; Creswell & Creswell, 2018; Saunders et al., 2015). The different assumptions and stances of researchers have inevitably led to a vast number of diverse research paradigms (Saunders et al., 2015). In order to be able to situate the present research in the diversity of paradigms, it is necessary to understand the ideas of the individual paradigms. For this reason, the discussion on the choice of paradigm for this research starts with a brief discussion on the emergence of the diversity of research paradigms.

3.1.1 The emergence of the diversity of research paradigms

Business and management are a relatively young field of research. It emerged in the middle of the twentieth century as an academic discipline (Cox et al., 2012; De Cock & O'Doherty, 2016). In contrast to other scientific disciplines such as chemistry or physics, the topics are not that specific. Business and management theory is about people, relationships, economics, politics, products, technologies and many other dynamically changing components (Greener, 2008). Due to this multifaceted nature, its theoretical foundations were derived from a mix of disciplines such as social sciences, natural sciences, humanities, and organizational sciences. This has inevitably led to a plethora of research philosophies (Saunders et al., 2015).

Inspired by Thomas Kuhn (Kuhn, 1962), who introduced the concept of research paradigms, Burrell and Morgan (Burrell & Morgan, 1979) drew attention to this diversity with their groundbreaking book

'*Sociological paradigms and organisational analysis: Elements of the sociology of corporate life'*. This led on the one hand to the establishment of the concept of paradigms in business and management research and on the other hand to the beginning of a veritable paradigm war (Shepherd & Challenger, 2013).

The disputes were multiple and related to the entire research practice. The majority of the debates concerned matters of ontology (the nature of reality) and epistemology (the theory of knowledge) (Easterby-Smith et al., 2018). There was also debate as to whether a unified paradigm should be sought for business and management research (Shepherd & Challenger, 2013). On the one hand, it was called for integration into the functionalist paradigm arguing that this would strengthen business and management theory as a science. On the other hand, it was argued that the adoption of several paradigms would allow more comprehensive research. However, not only the application of different paradigms within the discipline was debated, but also the application of different paradigms within a single research project. Thus, on the one hand, the '*purists'* argued that paradigms and methods should not be mixed, and on the other hand, the '*situationalists'* (pragmatists; proponents of the mixed methods research) argued for the use of certain methods in different contexts (R. Cameron & Miller, 2007). Researchers have so far failed to reach agreement on all these questions, but this does not necessarily have to be considered an issue. Some researchers describe the diversity of the field as helpful (Saunders et al., 2015).

In addition to the constant debates about the research paradigms themselves, there are also differences of opinion about how a researcher should adopt a paradigm. While some researchers argue that the paradigm results from the choice of research approach and methods by the researchers, others argue that these decisions are subordinate to the choice of paradigm in line with their beleif and personal ontologiies and epistemologie (Saunders et al., 2008). However, other researchers see the choice of paradigm and research approach, including methods, as an iterative process encompassing all the methodological decisions (Hallebone & Priest, 2008). The choice of research philosophy for the present research is based on such an iterative approach.

3.1.2 The Concept of research paradigms

Besides all the debates, Kuhn's (1962) concept of paradigms also brought a system of order into business and management research (Shepherd & Challenger, 2013). The numerous different research philosophies can be classified into the multidimensional framework, which greatly facilitates the overview and understanding of the different approaches.

Guba and Lincoln (Guba, 1990; Guba & Lincoln, 1994) originally proposed that a paradigm is based on their proponents' answers to three fundamental questions: the ontological question (what is the nature of reality?), the epistemological question (how do we know what we know?) and the methodological question (how should the researcher go about finding out knowledge?). Heron and

Reason (1997) later argued that a paradigm is also strongly based on the axiological question (what is the role of values?). Creswell (2007) finally added a fifth basic assumption, which is addressed by the rhetorical question (what is the language of research?).

The ontological, epistemological, axiological, methodological, and rhetorical basic assumptions that constitute a research paradigm can be represented as continua each with two extreme positions, as shown in figure 7. All the different business and management research philosophies can now be positioned in this multidimensional set of continua (Burrell & Morgan, 1979). The opposite extremes can be considered as manifestations of the extreme positions of objectivism and subjectivism (Burrell & Morgan, 1979; Saunders et al., 2015). Objectivism originated in the natural sciences where its methods are applied to great success (Saunders et al., 2015). Subjectivism was introduced as a counter movement by critics who argued that the approaches of the natural sciences could not be transferred to the social sciences (Holden & Lynch, 2004).

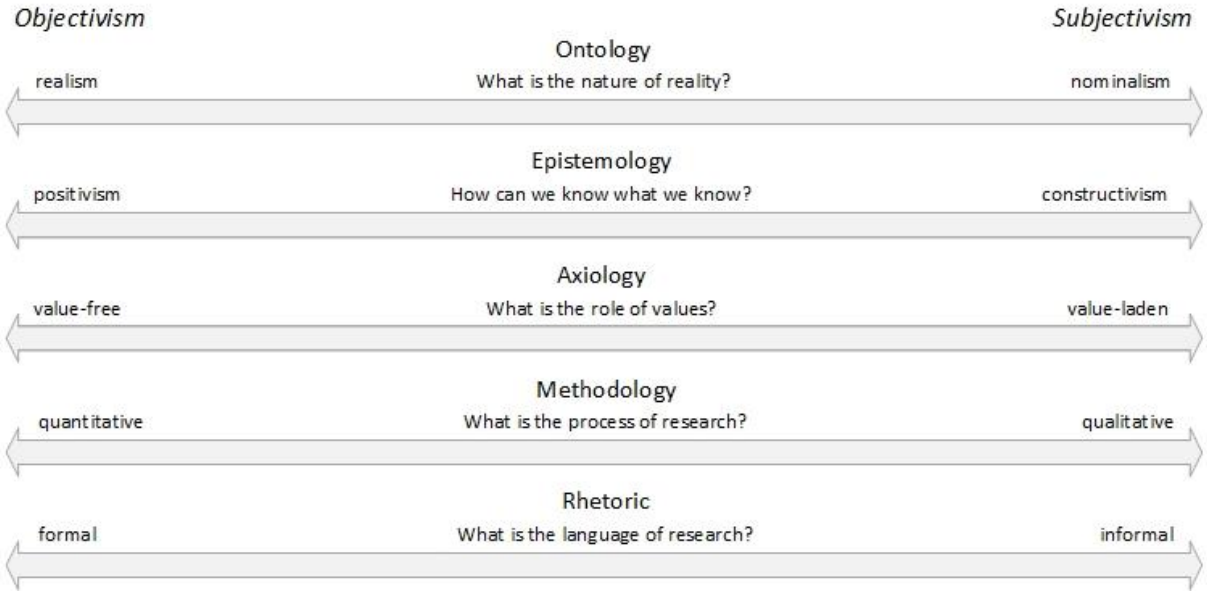


Figure 7: Basic assumptions underlying the research paradigm as continua. Source: adapted and extended from (Burrell & Morgan, 1979; Saunders et al., 2015)

Having outlined the spectrum of research paradigms, it is now possible to clearly classify the post-positivist approach chosen for the present research. The paradigm framework as shown in figure 7 serves as a basis for discussion for the following justification of the choice of the post-positivist stance.

3.1.3 Choice of paradigm for this research

The choice of the research paradigm for this research project resulted from an iterative process, which has started with the first ideas about the research problem and was continuously reviewed and

adapted as the research problem was refined. Following Creswell and Creswell's (2018) suggestions, this iterative decision-making process about the research perspective took into account the nature of the research problem, the strategies of enquiry and specific research methods and practices, the researcher's philosophical assumptions, the researcher's personal experience as well as the target audience of the research. After careful consideration of these aspects in the iterative decision-making process, the post-positivist perspective was chosen for this research. The rationale is discussed in the following.

Regarding the research problem, it seems important for the choice of the research paradigm to consider the extent of previous research and the research objective. One of the main objectives of the present research is to evaluate the indications found in previous research of a potential negative impact on the psychological well-being of the employee caused by the demand for ambidexterity. Much research has already been done on individual ambidexterity as well as psychological well-being. The variables are clearly conceptualised and validated research instruments are available. There are also indications from previous research of possible contextual variables that may influence the relationship between the demand for ambidexterity and the psychological well-being of the employee. In particular, as discussed in the literature review, characteristics of the employee themselves, namely personality, and of the work environment, namely team climate, have been identified as potential moderators. Personality and team climate have also been widely researched and established and validated measurement instruments exist to measure these variables.

In this context, primarily a deductive approach makes sense, in which starting from existing theory, hypotheses are formulated and tested, and finally new theory is created (Bryman, 2012; Saunders et al., 2008). In addition, the aim is to create a generalisable theory from the individual observations on potential negative effects on psychological well-being as a result of the demand for ambidexterity, which have been made in previous research. In order to be able to identify patterns and generalise from them, it is necessary to select samples of sufficient size (Saunders et al., 2008). This in turn implies the choice of a quantitative research approach (Bryman, 2012). Such an approach is perfectly compatible with the post-positivist stance, considering that *"The post-positivist assumptions have represented the traditional form of research, and these assumptions hold true more for quantitative research than qualitative research."* (Creswell & Creswell, 2018, p. 6).

In terms of the strategies of enquiry and the specific research methods and practices, the post-positivist stance also found to be compatible with the present research. Researchers adopting the post-positivist philosophy hold a realist stance in that they believe in the existence of a real world driven by natural laws. However, in contrast to empirical or naïve realists, they consider reality to be not completely comprehensible to an individual and only imperfectly perceptible (Guba & Lincoln, 1994). The post-positivist researchers are therefore critical of their work and aware of possible distortions. They explicitly try to take a position that is as neutral as possible and to become aware of their predispositions (Guba, 1990). This neutral position seems particularly important with regard to the

research subject and the data to be collected. To investigate the research question, highly personal information has to be collected about the feelings at work, work content and personal characteristics. If the researcher does not maintain distance and neutrality, there is a risk of bias (for example in the form of social desirability) in answering the questions as well as in the researcher's interpretation of the information. In contrast to positivism, which is often criticised in the social sciences for excluding environmental influences, post-positivism explicitly takes context into account, which makes this paradigm widely accepted in business research (N. J. Fox, 2008). Also, the present research, which takes into account the personality and working environment of employees when examining the impact of the demand for ambidexterity on their psychological well-being, considers the inclusion of context to be eminently important.

According to the recommendations of Creswell and Creswell (2018), the philosophical assumptions of the researcher as well as the target audience of the research were also taken into account when choosing the post-positivist position. The target audience of this research are researchers and practitioners in the field of business and management. The post-positivist stance is widely used in business and management research, so it can be assumed that the target audience of the research is familiar with this perspective. Overall, it can be concluded that the post-positivist view is highly compatible with the research problem and its context.

The philosophical position adopted for the present research is illustrated in figure 8.

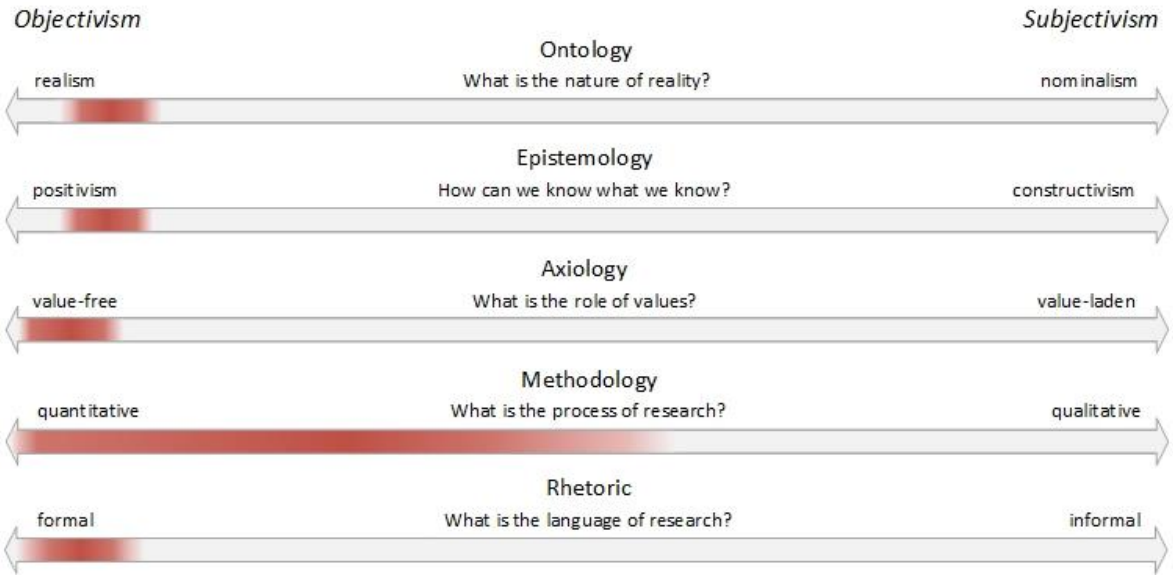


Figure 8: Paradigm adopted for the dissertation. Source: adapted and extended from (Burrell & Morgan, 1979; Saunders et al., 2015)

3.2 Research design and strategy

This section describes the choice of the research design and strategy adopted in the present research. The research design, which describes the strategies and methods applied to answer the research questions as well as the data collection procedure, is directly related to the research questions and objectives as well as the adopted research philosophy as discussed in the previous section (Creswell & Creswell, 2018). Thus, the design decisions were made in an iterative process while sharpening the research questions and objectives as well as the philosophical positions. Central subjects of the research process were the choice of the research approach and the data collection method. The choice of the research approach is justified in the next section. A justification of the chosen data collection method follows in the section after.

3.2.1 Research approach

As the term post-positivism suggests, it refers to thinking after positivism, or in other words to the critique of the absolute truth of knowledge presumed by positivists (Phillips & Burbules, 2000). Post-positivists take a positivistic stance in that they believe in a real world and embrace scientific methods (Creswell & Creswell, 2018). However, in contrast to positivists, post-positivists consider reality to be not completely comprehensible to an individual and only imperfectly perceptible (Cohen et al., 2017).

In post-postivist research, primarily the deductive research approach is accepted (Creswell & Creswell, 2018). The deductive research approach starts with what is already known in the field of interest as well as with theoretical considerations based on this. From this, the researcher derives hypotheses that are then empirically tested. From the findings of these investigations, new theory is formulated or existing theory is revised (Bryman, 2012; Creswell & Creswell, 2018; Saunders et al., 2019). Such a deductive approach fits perfectly with the context and objectives of the present research, which aims to identify specific patterns and to derive a generally valid theory from them. Specifically, the hypotheses formulated based on previous theory (Bonesso et al., 2014; Karhu, 2017; Keller & Weibler, 2015; Laureiro-Martínez et al., 2015) stating that the demand for ambidexterity can have negative effects on the psychological well-being of the employee and that these effects are moderated by team climate and personality shall be tested. The findings from the research shall flow back into literature and add to the theory of individual ambidexterity.

The process of deduction is illustrated in figure 9.

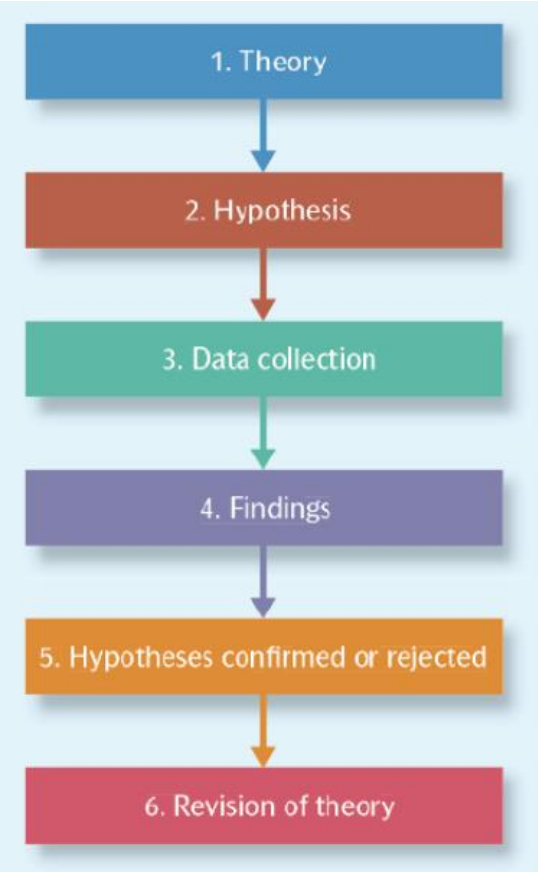


Figure 9: The process of deduction. Source: (Bryman, 2012, p. 21)

It can be concluded that the deductive research approach is in line with the aims and the context of the present research as well as the philosophical stance of the researcher.

3.2.2 Data collection method

The main methods of the quantitative research common under the post-positivist perspective are experiment and survey (Creswell & Creswell, 2018; Saunders et al., 2015). In principle, these two methods are compatible with the aims of this research as well as with the philosophical view under which it is to be conducted.

Experimental research aims to determine whether a specific intervention or treatment (change in an independent variable) affects an outcome (dependent variable) (Saunders et al., 2015). In a classical experiment, the study participants are randomly selected and randomly but equally divided into the so-called treatment group and the control group. The intervention is carried out only in the treatment group (Easterby-Smith et al., 2018). In addition to these true experiments, there are quasi-experiments, in which the participants of the treatment and control group are not selected randomly, but according to other criteria, mostly existing group affiliations (Easterby-Smith et al., 2018).

Experiments as well as quasi-experiments therefore always entail a comparison between the results obtained by the treatment group and those obtained by the control group (Bryman, 2012). Not only in the natural sciences, but also in business and organisational research, experiments are often carried out in laboratory settings rather than in the field to obtain better control (Easterby-Smith et al., 2018). This increases the internal validity, that is, the reliability that results can be attributed to the interventions rather than to other factors. On the other hand, achieving external validity (generalisability under real conditions) is difficult under laboratory conditions (Saunders et al., 2015).

The research model discussed in section 2.7, which provides the foundation for the proposed research, consists of the independent variable *demand for ambidexterity*, the dependent variable *psychological well-being* and the moderating variables of *personality traits* and *team climate*. According to the definition of an experiment, the independent variable, which is the demand for ambidexterity, would have to be modified and the effect of this intervention on the dependent variable of psychological well-being as well as the moderating variables of personality traits and team climate would have to be observed and measured (Saunders et al., 2015). The workplaces of the participants in the test group would therefore have to be redesigned to demand a certain level of ambidexterity. It would be expected that this targeted manipulation would influence their psychological well-being.

Such an approach would have a massive impact on the corporate organisation and entail possible ethical problems. The job roles would have to be reallocated among the employees. This would not only involve considerable administrative effort but would probably also require employee training. The experiment would therefore be very costly and risky. The employees might resist the new allocation of responsibilities. Furthermore, the changes could have a negative impact on organisational performance and employee motivation. Overall, an experiment would involve a considerable risk for the organisation, making it very unlikely that the research site would agree to such an approach. The researcher would also run a substantial risk of violating his ethical principles and becoming liable for harm to his research participants.

Since the experimental strategy is practically not applicable for this research, the focus is shifted to the survey strategy, which is one of the most common data collection methods in business and management research (Saunders et al., 2015). In a survey, structured questions summarised in a questionnaire are used to collect information from a sample of individuals through their responses (Buckingham & Saunders, 2004). The questionnaire can thereby be understood as a data collection instrument, which can be used to ask the questions personally or remotely, in other words without the presence of the researcher (Ekinci, 2015). In addition, there are different modes of distribution, completion, and collection of questionnaires. Saunders, Lewis and Thornhill (2015) distinguish between web and mobile, SMS, mail, delivery and collection, telephone and face-to-face modes. An overview of the different questionnaire modes is provided in figure 10.

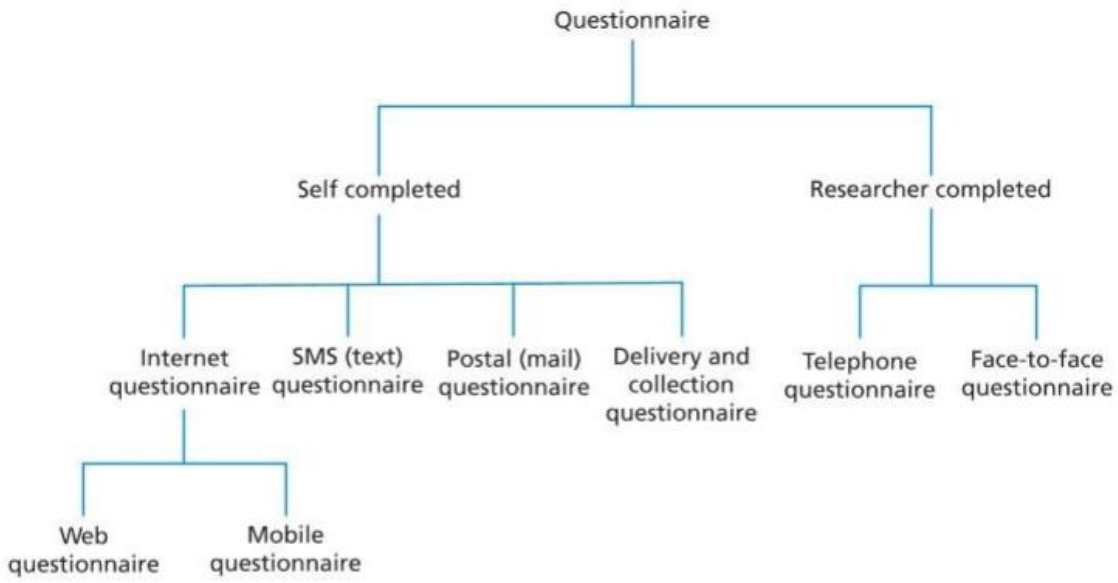


Figure 10: Different questionnaire modes. Source (Saunders et al., 2015, p. 506)

In order to test the research model and the hypotheses introduced in section 2.7, sensitive information such as statements regarding the personality and well-being of the participants must be obtained. It can be assumed that some of them would be embarrassed to make such statements in face-to-face interviews. In studies where there is a risk of social desirability effects, the adoption of online surveys is recommended, which have the advantage that the researcher does not have to be present and the participant can thus answer anonymously (Duffy et al., 2005). Speed and low costs, as well as the possibility to easily reach a large or distributed sample, are mentioned as other important advantages of web and mobile surveys (Evans & Mathur, 2005). Another important advantage of the survey over the experiment is that it does not interfere with the working environment, and thus there is no impact on the well-being of the employee or operational disturbances. In addition, self-administered survey instruments are highly reusable (Buckingham & Saunders, 2004). This makes it possible to repeat the survey later in other contexts.

In summary, it can be concluded that the survey method, in contrast to the inapplicable experiment method, fits perfectly with the requirements of this research and offers important advantages. Therefore, the method of survey is chosen for this research. Concretely, the mode of a self-administered and online distributed questionnaire is chosen in order to minimise the risk of social desirability effects (Duffy et al., 2005). It is important that the chosen mode is already taken into account when developing the questionnaire and that a suitable design is adopted (Dillman et al., 2014).

3.3 Sample and procedures

This section provides an in-depth discussion of the sampling procedure employed in the present research. The determination of the population and the sampling procedure are among the most important methodological decisions in survey research (Creswell & Creswell, 2018). Hallebone and Priest point this out as follows: *"A technically and purposively appropriate representative sample needs to be chosen to reflect the relevant population of the research and the intended use of the findings."* (Hallebone & Priest, 2008, p. 88). The section starts with the introduction of the research site and the target population. This is followed by a description of the sampling frame. Next, the sampling methods are discussed in detail. Then some thoughts on the desired sample size are provided. The section concludes with a summary of the sampling process.

3.3.1 Research setting and target population

The survey draws on a sample of middle managers from different professions at Swiss Post. During the past decades Swiss Post has experienced multiple environmental changes. While postal operators in most countries used to operate in a stable monopoly market, the situation has changed dramatically. The two major challenges they face is the liberalisation of the postal market and the substitution of mail with digital services (Busu et al., 2015; Morel, 2014). Further drivers of market transformation have been globalisation and the growth of e-commerce, resulting in a rapid increase in parcel volume. Lastly, consumers have become more demanding. With an abundance of choice they seek better price offers (Busu et al., 2015). Under this competitive pressure, Swiss Post has become an innovative organisation and at the same time constantly strives to increase the efficiency and profit of its existing business.

Swiss Post places great emphasis on developing innovations close to the current business, which is continuously optimised, thus strongly demanding ambidexterity from middle managers from different professions (Meister, 2013). The more than 58,000 employees of Swiss Post originate from 138 nations and work in more than one hundred different professions. This professional and cultural diversity makes the organisation an ideal setting for this research. There are several occupational groups within Swiss Post that have been the focus of previous research on individual ambidexterity in other organisations. These are, for example, the occupational groups of business management (Li et al., 2015), service and sales (Agnihotri et al., 2017; Gabler et al., 2017), innovation and business development (Hafkesbrink & Schroll, 2014; Zhang et al., 2019), R&D (Lowik et al., 2016; Zhang et al., 2019), information technology (Bonesso et al., 2014; Seo et al., 2015), and marketing (Kauppila & Tempelaar, 2016). However, it is assumed that the demand for ambidexterity is nowadays present in a variety of other professions as well (C. Gibson & Birkinshaw, 2004). Birkinshaw and Gupta even conclude that in organisations that do not solve the exploitation-exploration paradox through structural separation, virtually every employee is confronted with the demand for ambidexterity: "*In fact, even the most ordinary production worker or call center worker faces some version of the ambidexterity*

dilemma: How much of my time should I spend exploiting my basic skills for the benefit of the organization, and how much should I try to develop new skills and/or help the organization in creative ways" (Birkinshaw & Gupta, 2013, p. 294).

However, the present research does not go so far as to cover employees of all professions and hierarchical levels at Swiss Post, as previous studies have shown that there are also occupational fields and positions in which the ability to be ambidextrous plays a subordinate role or is even not desired (Rosing & Zacher, 2017). The vast majority of Swiss Post employees work in logistics and production, where efficiency and exact adherence to processes, in other words a high degree of exploitation, are required. Therefore, the target population for this research is defined as the body of middle managers working in administrative functions. An administrative function is thereby defined as a position at one of Swiss Post's administrative offices equipped with a personal PC workstation. Employees from the production, logistics and facility management departments are in this way excluded. In addition, since previous research has shown that the demand for ambidexterity particularly involves middle management (Kauppila & Tempelaar, 2016; Keller & Weibler, 2015; Raisch et al., 2009), the target population was further limited to middle managers. In this way, employees without any responsibility for decision-making were also excluded. The resulting target population comprises a total of 9,694 employees. These employees are middle managers from various occupations who work at the head office in Bern as well as at various locations throughout Switzerland. The occupational groups already examined above, as well as other occupational groups that may also be subject to the demand for ambidexterity, are each represented by a sufficient number of middle managers to allow an anonymous survey without drawing conclusions about the individual employee.

3.3.2 Sampling frame

According to Swiss Post's internal guidelines, the sample for internal surveys must be drawn using the survey tool Survalyzer. Therefore, Survalyzer's employee directory serves as the sampling frame for this survey. The employee directory, which can be found in the sampling component of the survey tool, has a tree-like structure. This allows the selection of corporate divisions, business areas, departments, and finally individual employees via the tree structure. A print screen of the employee directory in Survalyzer can be found in figure 11.

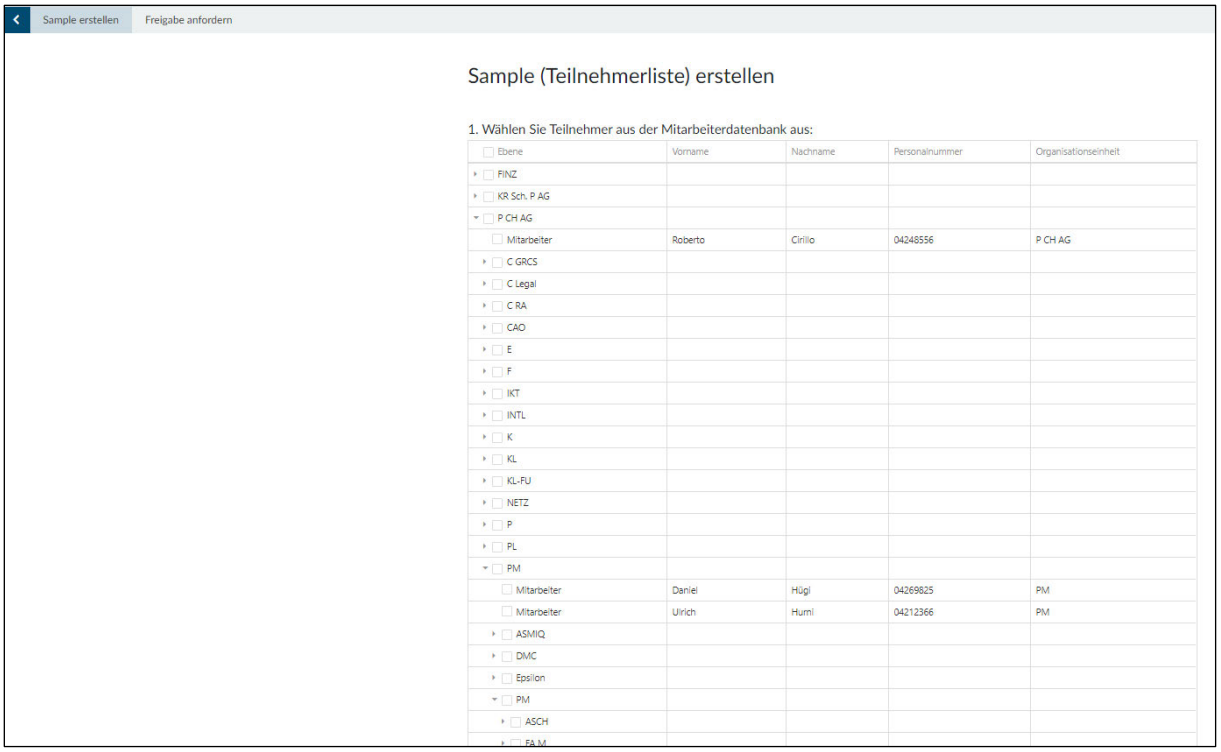


Figure 11: Employee directory in Swiss Post's internal survey tool

3.3.3 Sampling method

As in most surveys, it is neither sensible nor possible to survey the entire population, which comprises almost ten thousand employees, in the present research. It is therefore necessary to draw a sample. However, as Saunders, Lewis and Thornhill point out, this should not result in any drawbacks: *"For some research questions it is possible to collect data from an entire population as it is of a manageable size. However, you should not assume that a census would necessarily provide more useful results than collecting data from a sample which represents the entire population."* (Saunders et al., 2008, p. 212). The researchers argue that because of the smaller number of cases needed by using sampling, more detailed information can be collected and more time can be spent developing and testing the data collection instruments (Saunders et al., 2008).

In order to get permission to conduct an employee survey within Swiss Post, an application must be submitted to the research committee. Generally, the survey of a maximum of 1,000 employees using the internal survey tool Survalyzer is approved. However, for the present research, Swiss Post agreed to exceptionally deviate from this guideline. In a discussion with the research managers, a sample was defined that included the three logistics divisions PostMail, PostLogistics and PostalNetzwork. These three group units were selected because they belong to the main division Swiss Post CH Ltd., which runs Swiss Post's core business, and their employees represent the typical job profiles of Swiss Post much better than those of the very heterogeneously organised other group units. In principle, the

survey for the present research had to be restricted to the main division in accordance with the regulations of Swiss Post's research commission. The fourth unit of the main division, Swiss Post Solutions, operates internationally and its employees work in a very distributed manner and in highly specific functions. They therefore do not represent the typical job functions of Swiss Post. In addition, the employees are difficult to reach. It was therefore decided to restrict the survey to the three logistics departments.

Thus, as shown in figure 12, the employees of the three logistics areas PostMail, PostLogistics and PostalNetzwork were sampled. From this, trainees, interns, temporary workers, and other employees without any responsibility for decision-making were excluded, as they do not represent the target population to a sufficient extent. The sample ultimately comprised 3,454 middle managers, which are representative of the target population.

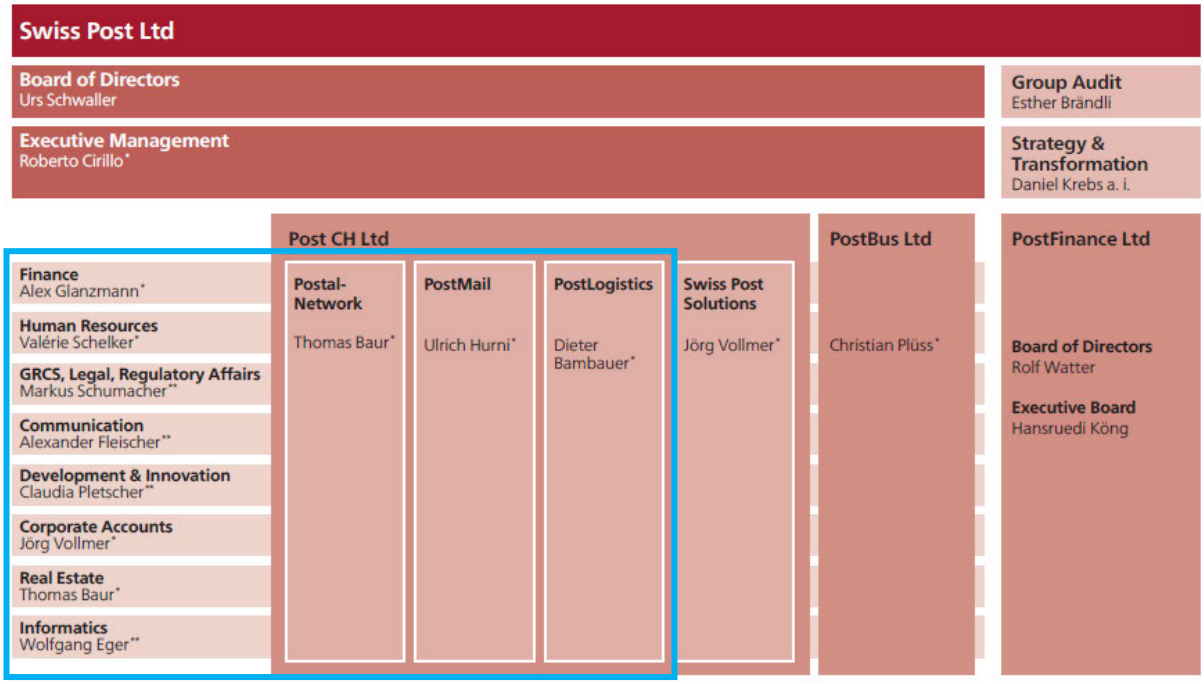


Figure 12: Selected sample (highlighted in blue)

Switzerland has four official languages: German, French, Italian and Romansh (see figure 13). German, French and Italian are the official corporate languages of Swiss Post. While external communication is consistently provided in three languages, internal communications are often limited to German and French. This is partly because the proportion of Italian-speaking employees is less than 10% and partly because many people in Switzerland are bilingual. This means that people at home in their families speak a different national language than at work. In practice, it is thus not always easy to assign an employee to a particular language. On the other hand, it is usually ensured that all employees can be reached with the languages German and French.

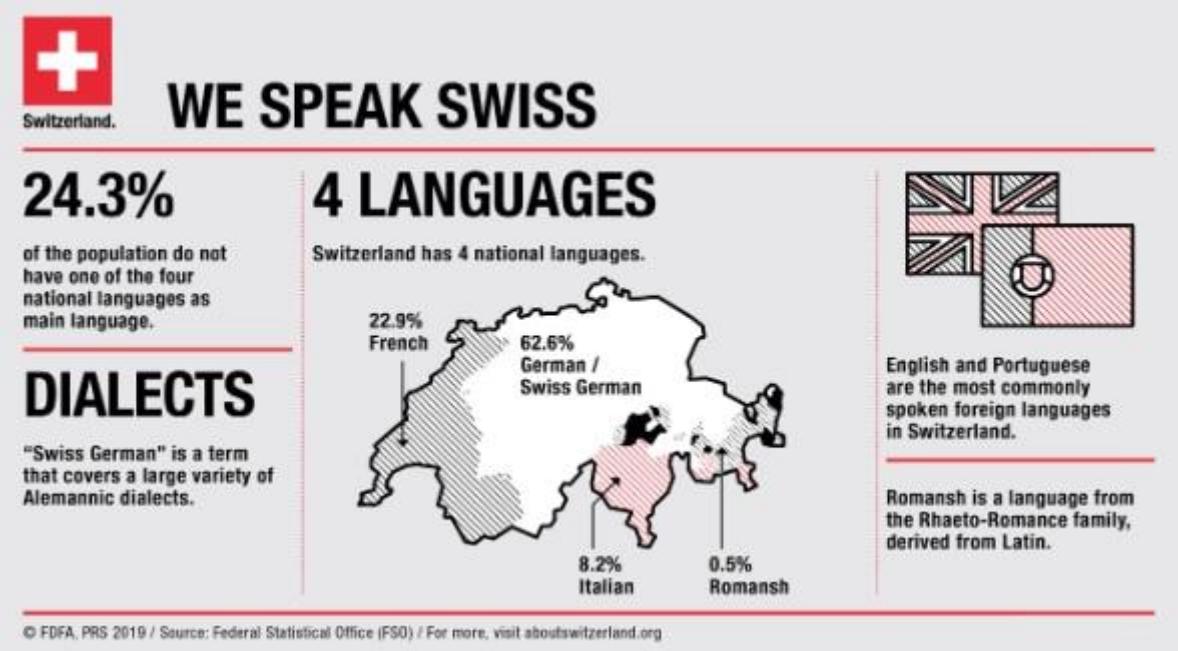


Figure 13: The linguistic diversity of Switzerland. Source: (*Language – Facts and Figures*, 2019)

In order to reach the entire sample, the questionnaire must therefore be made available at least in German and French. This poses a challenge, especially since psychological measuring instruments as used in this research have proved problematic when simply translated into the languages of other cultures (Schmitt et al., 2007). Thus, it is taken into account that the intercultural translation of measuring instruments requires great care and has to be carried out within a controlled process (Su & Parham, 2002). The procedure and methods used for translation are discussed in detail in section 3.4.5.

3.3.4 Sample Size

A sufficiently large sample size is an crucial prerequisite for sufficient power and therefore an important issue in the planning phase of a research project (Tabachnick & Fidell, 2019). The necessary sample size depends on many factors, such as the size of the population, the desired level of confidence in the data, the tolerable margin of error, and the statistical procedures that will be applied in the analysis of the data (Neuman, 2014; Saunders et al., 2015). Deciding on the appropriate sample size is further challenging for the researcher as there are no generally accepted guidelines about it (Kline, 2015; Wolf et al., 2013).

There are some rough rules of thumb in the literature for determining the minimum sample size. For example, Kline (2015) recommends a minimum sample size of 200 cases for SEM analyses of average complexity. Muthén and Muthén (2002) consider 150 cases as the minimum sample size in

the case of normal distribution and no missing data. Furthermore, literature suggests the use of the ratio of observations to estimated parameters (N:q ratios) as a guideline (Jackson, 2003). Very common are recommendations of 10:1 ratios (Kyriazos, 2018; Wolf et al., 2013). Kline (2015) suggests a ratio of 20:1 arguing that advanced analytical methods such as structural equation modelling (SEM) are very sensitive to inadequate sample sizes. For the present research, in which 72 parameters are estimated as discussed later, this would imply a minimum sample size of 720 respectively 1,440 cases. Finally, some authors provide tables from which the minimum necessary sample in relation to the size of the population can be derived. The guide of Saunders, Lewis and Thornhill (2015) is presented in table 4. The recommended sample sizes are based on a confidence level of 95 %. According to this guide, a minimum sample size of around 370 would be required for the present research, assuming a margin of error of 5%.

Table 4: Sample sizes for different sizes of target population. Source: (Saunders et al., 2015, p. 281)

	Margin of error			
Target population	**5%**	**3%**	**2%**	**1%**
50	44	48	49	50
100	79	91	96	99
150	108	132	141	148
200	132	168	185	196
250	151	203	226	244
300	168	234	267	291
400	196	291	343	384
500	217	340	414	475
750	254	440	571	696
1 000	278	516	706	906
2 000	322	696	1091	1655
5 000	357	879	1622	3288
10 000	370	964	1936	4899
100 000	383	1056	2345	8762
1 000 000	384	1066	2395	9513
10 000 000	384	1067	2400	9595

As the above discussion has shown, sample size recommendations for the present research vary between 150 and 1,440 cases. Based on the various recommendations from the literature, a sample size of 720 cases is defined as the minimum and a sample size of 1,440 cases as the desired target for the present research.

3.3.5 Summary of the sampling process

The main decisions and the results of the sampling process are summarised in table 5. As can be seen from the data, the sample size of 3,454 cases is well above the minimum sample sizes recommended in literature. In determining the sample, consideration was given to the fact that there

are always non-responses in surveys (Bryman, 2012). Saunders, Lewis and Thornhill (2015) suggest a likely response rate of 30-50% for online surveys within the organisation. Based on these estimates, for the present research, 1,036 – 1,727 responses were expected for this research. As will be explained later on in the analysis chapter, 1,658 of the invited middle managers completed the online survey in full. This corresponds to a response rate of 48.0%, which can be considered a very good result in the context of the present research (Saunders et al., 2015). This high response rate meets the requirements of structural equation modelling (Kline, 2015), which is used for data analysis and discussed in the analysis chapter.

Table 5: Sampling definitions. Based on: (Dillman et al., 2014)

Parameter	**Definition**	**Application in this research**
Target population	All of the units (e.g., individuals, households, organisations) to which one desires to generalise the survey results	All Swiss Post employees in administrative functions (9,694 cases)
Sample frame	The list of units in the population that the sample will be drawn from	Employee directory in Swiss Post's internal survey tool
Coverage rate	The proportion (often estimated) of the target population that is included in the sample frame	100%
Sample	All units of the population that are drawn for inclusion in the survey	The employees of all administrative departments of the Group units PostMail, PostLogistics and PostalNetwork at middle management level (3,454 cases)
Sample selection	How units are chosen from the sampling frame; every unit in the population must have a known chance of being included in the sample, but the rate at which different units are sampled can vary.	Purposive sampling of the cases that best represent the target population.
Completed Sample	All of the units sampled that complete the survey questionnaire	1,658 completed questionnaires

3.4 Questionnaire development and administration

This section iscusses the development of the questionnaire for this research. The section starts with an overview of the questionnaire development process. Next, the requirements of the questionnaire in the specific context of the present research are discussed. This is followed by an outline of the conceptualisation and operationalisation of the theoretical constructs. Then the development of the source language questionnaire is discussed, which serves as the basis for the translation process outlined next. Since the translation process and the procedures employed to ensure equivalence of the research instruments have a considerable influence on the quality of the research outcomes (Cha et al., 2007; Curtarelli & van Houten, 2018; Epstein et al., 2015; Guillemin et al., 1993), the translation process will be given special attention and an in-depth discussion. Following the translation, the research instrument is subjected to a pre-test, which is discussed next. A discussion on the administration of the questionnaire follows. Eventually, the finalised research instrument is subjected to an extensive pilot test, which is outlined next. The section concludes with the conclusions of the pilot test and a summary of the whole research instrument development process.

3.4.1 Questionnaire development process

The questionnaire is the central element of a survey and has a decisive influence on the success of such a research project (Brace, 2013). For this reason it is essential to devote appropriate attention to the development of the questionnaire and to follow a structured approach (Dillman et al., 2014). When describing the process of questionnaire development, the most widely used literature on research design focuses on the choice of questionnaire type and administration as well as the design of the questionnaire itself as well as the individual questions (Bryman, 2012; Burns & Bush, 2016; Creswell & Creswell, 2018; Saunders et al., 2015). However, more extensive literature analysis shows that there are other important steps in the questionnaire development process, which unfortunately are often not carried out thoroughly or even not at all. For example, there is often too little rigorous search for already existing research instruments, and thus too little consideration of the principle of comparability of research projects (Bastos et al., 2014; Hyman et al., 2006). In multicultural studies, the explicit definition of a translation procedure is frequently omitted (Cha et al., 2007; Sousa & Rojjanasrirat, 2011). The absence of a sophisticated and structured translation process can lead to inadequate quality control and thus entails the risk of a lack of equivalence between multilingual research instruments (Curtarelli & van Houten, 2018; Epstein et al., 2015).

In order to ensure that no relevant step is overlooked, a structured procedure for the development of the research instrument has been defined on the basis of the recommendations in literature (Bakla et al., 2012; Curtarelli & van Houten, 2018; Dhamani & Richter, 2011; Kazi & Khalid, 2012; Neuman, 2014; Sousa & Rojjanasrirat, 2011). This process is illustrated in figure 14. All the steps will be discussed in detail in the subsequent sections.

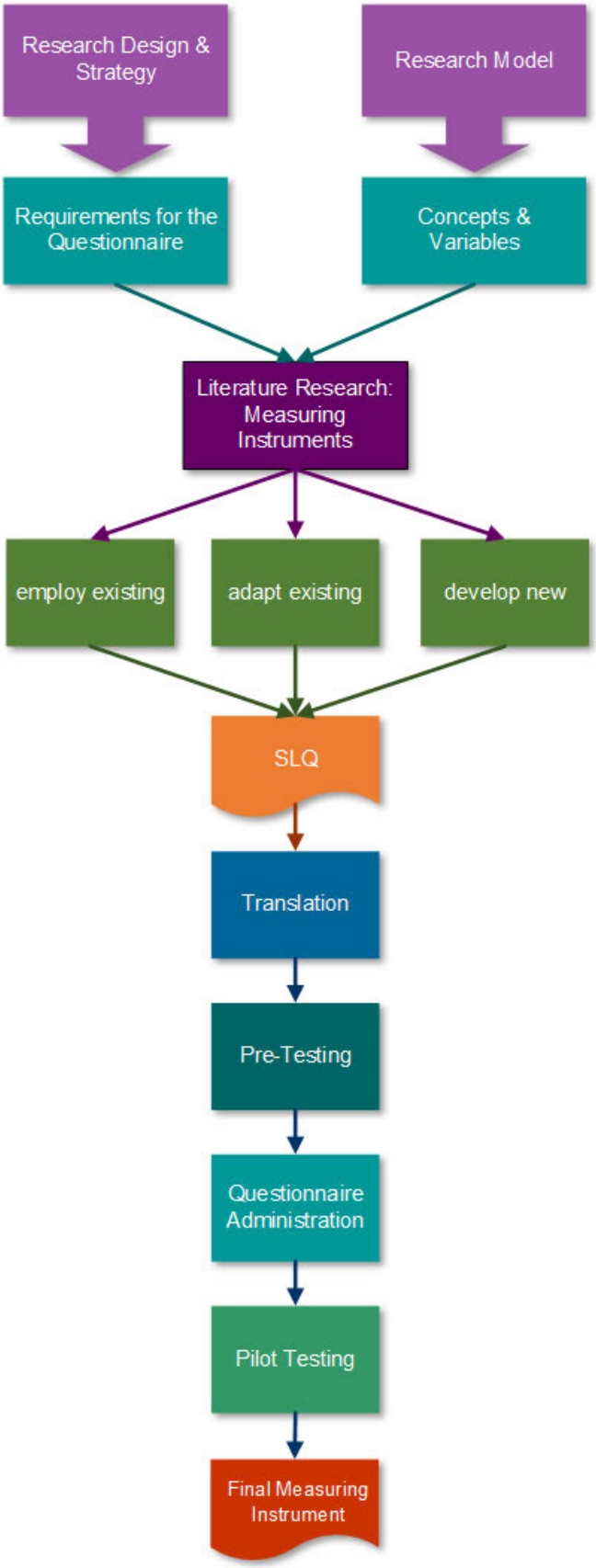


Figure 14: Questionnaire development process as adopted in the present research

The first steps in developing the questionnaire are, on the one hand, to define the requirements for the questionnaire based on the research design and strategy (process step '*Requiremeents for the Questionnaire'* in figure 14) and, on the other hand, to determine the concepts and variables to be measured based on the research model (process step *'Concepts & Variables'* in figure 14). (Bakla et al., 2012).

The next step *'Literature Research: Measuring Instruments'* consists of a comprehensive literature review regarding any existing research instruments from previous research that can be adopted for the present research. A decision is made as to whether existing scales can be adopted, whether they need to be adapted or, in the case that no scale exists for a construct, such a scale needs to be developed for the present research (Kazi & Khalid, 2012).

Next, in process step *'SLQ'*, the source language questionnaire (SLQ) is developed. This questionnaire serves as the base for the translation. The subsequent step *'Translation'* is of great importance. The translation of research instruments is a challenge and crucial for the quality of the research results (Dhamani & Richter, 2011; Sousa & Rojjanasrirat, 2011). For the present research, the SLQ has to be translated into two different languages.

The next step *'Pre-Testing'* involves a pre-test of the translated questionnaire (Curtarelli & van Houten, 2018). As a widely accepted way of doing this, cognitive interviews are employed in the questionnaire development process for the present research (Collins, 2003; Neuman, 2014).

The next step *'Questionnaire Administration'* is to determine how the questionnaire will be administered. Since an online survey was chosen for data collection during the research design process, this step also involves choosing and setting up the survey tool.

Once the questionnaire is available online, the next step *'Pilot Testing'* is a comprehensive pilot test under exactly the same conditions as in the subsequent large-scale field research (Fowler, 2013; Neuman, 2014).

From the pilot test, the research instrument as it will be employed in the subsequent field research results. The findings from the pilot test as well as the pretest may lead to the need for adjustments to the questionnaire. Due to such potential adjustments, the described process will not necessarily follow a strictly linear course, but there may be iterations between the individual steps.

3.4.2 Requirements for the Questionnaire

The basic requirements for any questionnaire are that, when administered correctly, it consistently measures what it claims to measure, which means that it is both valid and reliable (DelGreco et al., 1987; Saunders et al., 2015). The specific context and the concrete circumstances of this research impose the additional requirement of anonymity and confidentiality. Anonymity and confidentiality is required because the participants are expected to reveal very personal information about themselves and their work (Bryman, 2012; Saunders et al., 2015). The requirements of the questionnaire and their implications for the present research are discussed in the following.

3.4.2.1 Validity

A research instrument is considered valid if it measures what it is supposed to measure and this measurement is accurate and precise (Saunders et al., 2015). Validity thus refers to the relevance, precision and accuracy of a research instrument and is therefore a measure of the quality of the measurement process, which in turn determines the essential value and acceptance of a study (Sarantakos, 2012).

Distinct types of validity are discussed in literature. There have been efforts to develop uniform recommendations for classifying and naming the different aspects of validity, but to date no consensus has been reached (Cronbach & Meehl, 2017; Sireci, 1998). Therefore, while there is agreement in the literature that research instruments must demonstrate validity, the exact definition of validity is defined differently. An often cited classification of the different aspects of validity is that of Neuman (2014), who distinguishes between face, content, and construct validity. The present research also distinguishes and examines validity by these three aspects. A brief discussion of the characteristics of each aspect of validity, their significance for the present research and the methods for testing their presence are briefly discussed in the following.

A measuring instrument has **face validity** when it ‘on the face of it’ measures what the scientific community expects it to measure (Sarantakos, 2012). Face validity thus refers to the clarity and comprehensibility of the measurement instrument (Arafat et al., 2016; Zun et al., 2019). In the present study, face validity is ensured in particular by a comprehensive pretest, which makes sure that the items are clear and understandable for the participants. A comprehensive discussion regarding the results of the face validity check can be found in section 4.4.2.

Content validity is given if a measuring instrument covers all aspects of the conceptual definition of the construct under investigation (Sarantakos, 2012). In simple terms, the measuring instrument must contain all the questions necessary to capture the investigated concept (Saunders et al., 2015). In order to achieve content validity, Neuman (2014) suggests a three-step approach: first, the content of

the definition of a construct is specified, then samples of all aspects of the definition are identified, and finally one or more indicators are developed to capture all parts of the definition. In order to achieve content validity, special care is taken in the present research to ensure that all aspects of the phenomena under investigation as discussed in the literature review are captured. As a further measure, only measuring instruments that have been sufficiently tested for validity and reliability in previous research are used. The results of the test of content validity are also discussed in section 4.4.2.

Finally, construct validity indicates whether different indicators within a measuring instrument are consistent (Saunders et al., 2015). Depending on the measurement strategy, a distinction is made between the two types of convergent and discriminatory validity (Malhotra & Birks, 2006). **Convergent validity** is given when multiple indicators converge or are associated with each other, that is, when multiple measures of the same construct within the measurement instrument are related or operate in a similar way (Neuman, 2014). **Discriminant validity** as the opposite of convergent validity means that the related indicators of a construct are negatively associated with opposing constructs (Neuman, 2014). The absence of overlap (or correlation) between scales means that the scales are distinct and therefore have discriminatory validity when different scales are used to measure theoretically different constructs (Saunders et al., 2015). Convergent validity and discriminant validity are tested in this research by means of statistical analyses, which are discussed in section 4.4.3.1 and section 4.4.3.2 respectively.

3.4.2.2 Reliability

The reliability of a questionnaire is given when it produces the same results if it is administered repeatedly and in the correct manner (Bryman, 2012). Basically, three types of reliability can be distinguished: stability reliability, representative reliability and equivalence reliability (Neuman, 2014).

Stability reliability is concerned with whether the measuring instrument or question leads to the same answer at different points in time (Hyman et al., 2006). Therefore, stability reliability is often evaluated by a test-retest approach, where the same questions are posed to a respondent at different times (Neuman, 2014). If a fast-changing attribute, such as the opinion on a hot topic or the emotional state, is examined, the time between the two tests must of course be very short (Hyman et al., 2006). This, however, entails the risk that the participant will answer from memory (Bolarinwa, 2015). In practice it is therefore in certain cases difficult to test for stability reliably, hence Saunders, Lewis and Thornhill (Saunders et al., 2015) suggest using this method only as a complement to other methods.

Representative reliability means that the measurement instrument or question applied to different subpopulations, such as different age groups, sexes or races, yields the same answer (Neuman, 2014).

Equivalence reliability or internal consistency is obtained when several different indicators measure the same construct and provide consistent answers (Hyman et al., 2006). Equivalence-reliability or internal consistency is achieved when several different indicators measure the same construct and provide consistent answers. Internal consistency is considered the most important form of reliability for multi-item instruments (Creswell & Creswell, 2018). Internal consistency can be verified using, for example, the split-half method (DelGreco et al., 1987). This involves distributing the different indicators of a construct into two groups and checking whether both halves produce the same results (Neuman, 2014). However, often the internal consistency of a homogeneous questionnaire is examined by a statistical procedure and quantified by a Cronbach's alpha value (Creswell & Creswell, 2018). It is suggested that the Cronbach alpha value should be .70 or higher (Bolarinwa, 2015).

In the present research, the reliability of the research instrument is examined in particular in the form of statistical analyses during the pilot test and the field test. The coefficient alpha, also known as Cronbach's alpha, and the factor loadings determined by means of confirmatory factor analysis (CFA) are examined as important parameters for determining reliability. The results from these analyses are discussed in detail in section 4.4.1.

3.4.2.3 Anonymity and confidentiality

Saunders, Lewis and Thornhill (2015) point out that the confidentiality of the data to be provided and the anonymity of the organisation or individual participants are among the most common organisational concerns when it comes to research in a business context. For ethical reasons in particular, confidentiality and anonymity should also be addressed and ensured within this research. This results in direct and indirect requirements for the questionnaire. This concerns on the one hand the development of the questionnaire. Thus, it must be ensured that no questions are asked whose answers make it possible to infer directly or indirectly the participant who gave the answer (Bryman, 2012). For example, asking for the exact date of birth would allow the participant to be identified with a high degree of probability. In addition, the questionnaire must be administered in such a way that anonymity is guaranteed when contacting the participants and when they provide feedback (Meadows, 2003).

Literature emphasises that the anonymity of the participants and the confidentiality of the data should be guaranteed, preferably through informed consent (Bryman, 2012; Creswell, 2013; Hallebone & Priest, 2008; Joffe et al., 2001). Informed consent should further ensure that participants are adequately informed about the purpose and objectives of the research, have the opportunity to ask questions, and have the time to make a fully informed, well-considered and freely given decision, under no pressure or coercion, on whether or not to participate in the research (Saunders et al., 2015). The present research ensures that participants' consent is informed by providing them with detailed information about the background and purpose of the survey in the introduction of the questionnaire

and by informing them about the usage of their data. Furthermore, they are provided with a contact address in case of questions or uncertainties.

3.4.3 Conceptualisation and operationalisation of the variables

The conceptualisation of the phenomena to be studied is a crucial step in the research process (Bryman, 2012). How key concepts are defined and measured in a research study has a direct impact on the validity and therefore the quality of the research outcomes (Engel & Schutt, 2014). In the words of Rao and Reddy *"Concepts are the building blocks of social theories and conceptualization is the process through which a researcher achieves theoretical validity for his research problem."* (Rao & Reddy, 2013, p. 108).

Given their importance, the conceptualisation and operationalisation of the phenomena to be studied was given high importance in the present research. The approach followed the process suggested by Rao and Reddy (2013), which is shown in figure 15. In stage I of this process, the focus is on conceptualisation, that is, is finding a generally accepted definition for a concept. A comprehensive literature review is the core of this process. The literature research conducted on the individual concepts to be studied in the present research will be discussed in detail in the following sections. In stage II, the individual dimensions of the concept and their indicators are then determined. Finally, in stage III, the scales are developed that actually allow measuring the concepts. Following, the validity and reliability of the developed measurement instruments should be tested. In the present research, this is carried out in the form of pre-tests. These will be discussed in detail later in section 3.4.6.

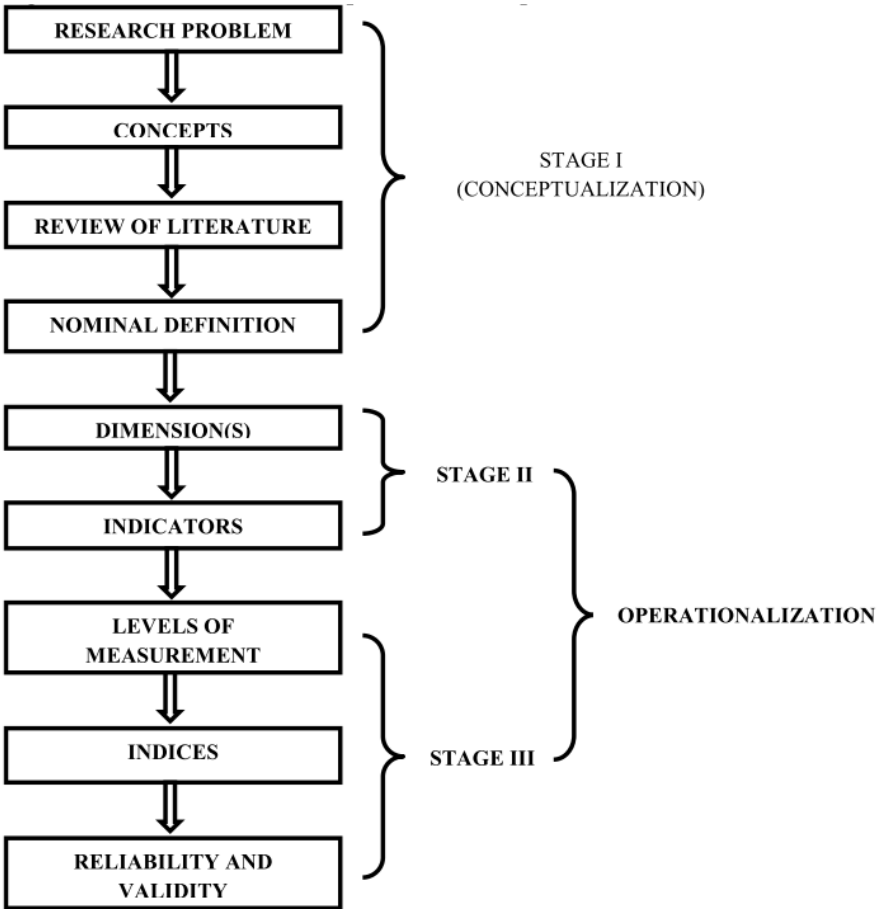


Figure 15: Conceptualisation and operationalisation process. Source: (Rao & Reddy, 2013, p. 110)

3.4.3.1 Demand for ambidexterity

Previous studies conducted at the individual level have looked at ambidexterity from different perspectives and conceptualised it differently, mostly as cognition (Good & Michel, 2013; Miron-Spektor et al., 2018b) or behaviour (T. J. M. Mom et al., 2007, 2009; Weibler & Keller, 2011). This is why the measuring instruments developed and applied in these studies differ considerably. In line with their conceptualisation of ambidexterity as a congnitive ability, Miron-Spector et al. (2018b) measured the concept by means of their research instrument developed specifically for this research, which assesses, on the one hand, the ability to adopt a paradoxical mindset and, on the other hand, the experience of tensions. Good and Michel (2013), who also conceptualised ambidexterity as a congnitive ability, measured ambidexterity in their research by means of cognitive tests established in behavioural psychology, specifically the Alternate Uses Test, the Go/NoGo Test and the Stroop Task. Some of these tests require the presence of the participant, so that it is not possible to conduct the study anonymously. This, in addition to the fact that the coneptualisation of their underlying constructs does not correspond to those of the present research, makes these measurement instruments unsuitable for this research.

The most frequently used instrument for measuring individual ambidexterity is that of Mom et al. (2009), which considers ambidexterity as behavior. Like most scales designed to assess ambidexterity at the individual or organisational level, it consists of two separate scales for exploitation and exploration. The two scales each consist of seven items describing typical exploration and exploitation activities. An example of an exploitation item is: *'Activities of which a lot of experience has been accumulated by yourself'*. An example of an exploration item is: '*Searching for new possibilities with respect to products/services, processes, or markets'*. Participants are presented with the following question: *'To what extent did you, last year, engage in work related activities* that can be characterized as follows:'. They are asked to indicate their engagement in each of the seven exploitation and exploration activities on a scale ranging from 1 (to a very small extent) to 7 (to a very large extent) (T. J. M. Mom et al., 2009, p. 820).

The authors have developed their measuring instrument based on the definitions of March who states that: *"Exploration includes things captured by terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, innovation. Exploitation includes such things as refinement, choice, production, efficiency, selection, implementation, execution".* (March, 1991, p. 71). To increase the validity of their measurement tool, they additionally conducted in-depth interviews with managers in various functions. The result is a well recognised and frequently used measuring instrument (Caniëls & Veld, 2016; Garcia, 2016; T. J. M. Mom et al., 2015, 2018; Zacher et al., 2016). For the exploitation scale a Cronbach's alpha of .87 was found and for the exploration scale a Cronbach's alpha of .90 (T. J. M. Mom et al., 2009), which indicates a high degree of reliability.

Another measuring instrument that is well validated in the German-speaking world is that of Weibler and Keller (2011). The authors constructed their scales on the basis of the measuring instrument of Mom, Van Den Bosch and Volberda (2007). However, in contrast to Mom and colleagues, who designed their scales to survey managers, the researchers also aimed to use their measuring instrument to additionally investigate the ambidextrous behaviour of professionals without managerial responsibility. After discussions with professionals and managers, they found that some aspects of exploration and exploitation that they considered important were not sufficiently covered by the items of Mom, Van Den Bosch and Volberda. Therefore, they added 16 self-constructed items to the 14 items inspired by Mom, Van Den Bosch and Volberda. However, of the 30 items, only 16 items proved to be valid and reliable in the subsequent comprehensive tests. The two scales demonstrated sufficient internal consistency with Cronbach's alpha values of .82 (exploration) and .91 (exploitation) respectively (Weibler & Keller, 2011). The resulting measuring instrument has been applied and validated in different studies (Keller & Weibler, 2014, 2015).

Initially, the widely used measuring instrument of Mom, Van Den Bosch and Volberda (2009) was chosen for this research. However, the pre-test revealed comprehension problems of the items of Mom, Van Den Bosch and Volberda. Many participants stated in the cognitive interviews that they had difficulties in thinking of something concrete regarding the activities. It turned out that the individual

participants interpreted the items differently. These problems may be due to the fact that Mom, Van Den Bosch and Volberda (2009) measure activities that reflect exploitative and explorative organisational learning with their instrument, which may have been too abstract for the middle managers of Swiss Post with their strong operational focus. For this reason the pre-test was repeated with the measuring instrument by Weibler and Keller (Weibler & Keller, 2011) as a substitute for that of Mom, Van Den Bosch and Volberda. As it turned out, all respondents considered these items to be easy to understand and concise. Adetailed discussion of the pre-test is given in section 3.4.6. For this reason it was decided to apply the measuring instrument by Weibler and Keller (Weibler & Keller, 2011) for this research. The authors gave their written consent on 9 July 2020.

The application of the scale from Weibler and Keller (Weibler & Keller, 2011) makes particular sense for this thesis, especially since it is well validated and conceptualises ambidexterity as behaviour. This research considers ambidexterity as behaviour as well, because the employee is usually expected to show a certain behaviour and not a certain way of thinking or mindset (Faisal Ahammad et al., 2015; Jasmand et al., 2012). However, for the purpose of this research, which examines the (subjectively perceived) job demands and not the actual job content, the original question *'In your current position, to what extent do you deal with ...'* is adapted accordingly: *'In the following, we would like to learn more about the requirements of your current job. To what extent are the following activities required of you in your current position:'.*

In prior studies, the higher construct of individual or organisational ambidexterity is calculated in different ways. While some researchers subtract exploitation from exploration and use an absolute difference value to determine ambidexterity (He & Wong, 2004), others multiply exploitation and exploration (C. Gibson & Birkinshaw, 2004; T. J. M. Mom et al., 2015). Still other researchers conceptualise ambidexterity simply as the sum of exploitation and exploration (Jansen et al., 2009; Lubatkin et al., 2006). The different ways of conceptualising ambidexterity imply a different understanding of the ideal state or degree of balance that should be achieved (Rosing & Zacher, 2017).

In the subtraction approach, ambidexterity is highest when exploitation and exploration are at about the same level. Under this approach, an employee who engages in exploitation to only a minor degree is considered ambidextrous if he engages in exploration to an equally minor degree. Researchers who apply this variant see ambidexterity as the balance between exploitation and exploration (Cao et al., 2009).

The conceptualisation of ambidexterity as the product of exploitation and exploration implies that exploration and exploration are considered as independent dimensions whose effects, however, depend on each other (Rosing & Zacher, 2017). Organisations and individuals reach a high degree of ambidexterity when they are heavily engaged in exploitation and exploration (T. J. M. Mom et al., 2009). This is basically also the idea of the addition approach. Here, however, the two activities can

compensate each other. Thus, an employee who is only moderately engaged in exploitation can compensate this by a high engagement in exploration (Cao et al., 2009).

This dissertation conceptualises individual ambidexterity as an equally high engagement in exploitation and exploration. Based on this understanding, the multiplication approach just discussed is applied in this research. The construct of ambidexterity thus results from the multiplication of the constructs of exploitation and exploration.

Following the recommendations of previous researchers who conceptualised ambidexterity as the product of exploitation and exploration, the exploitation and exploration scales were mean-centred before multiplying them in order to reduce the potential for multicollinearity (Cao et al., 2009; T. J. M. Mom et al., 2015). Mean-centring refers to the subtraction of the mean of a variable from all observations of that variable, moving the 0-point for that variable to the mean (Iacobucci et al., 2016). It is a widely accepted recommendation in the literature to mean-centre the two variables before forming multiplication terms, which are used in addition to the modelling of the ambidexterity scale described here also in order to model moderation effects (Robinson & Schumacker, 2009; K. W. Smith & Sasaki, 1979). Empirical research has shown that centring the variables in models with multiplicative functions greatly reduces the likelihood of multicollinearity and also improves the interpretability of the results (Iacobucci et al., 2016; Little et al., 2006; K. W. Smith & Sasaki, 1979).

3.4.3.2 Personality

In personality research, the Five Factor Model (FFM), also known as the Big Five Model, has become well-established as a research model (Neal, Yeo, Koy, & Xiao, 2012; Vollrath, 2001). Several personality tests have been developed on the basis of the model. One of the first and probably most comprehensive measuring instruments is Costa and McCrae's (1992) Personality Inventory (NEO-PI-R). However, with its 240 items and a time requirement of about 45 minutes to complete, the instrument is unsuitable for most research purposes (Gosling et al., 2003). In recognition of this fact, Costa and McCrae (2010) have developed a shortened 60-item version of the instrument, the NEO Five-Factor-Inventory (NEO-FFI). To this day, it is one of the most widely used instruments for measuring personality factors (Komarraju et al., 2011).

Another widely used and recognised measurement tool is the 44-item Big-Five Inventory (BFI) (Benet-Martínez & John, 1998; John & Srivastava, 1999). Although the BFI has been used in hundreds of studies and has shown a high degree of reliability and validity, weaknesses have become apparent over time, which the authors addressed with the development of a new version of the instrument, the BFI-2 (Soto & John, 2017a). The BFI-2 contains 60 items. It assesses the Big Five domains and 15 facets. Due to the high demand for shorter measuring instruments, the authors soon developed abbreviated versions of the BFI-2, with the BFI-2-S containing 30 items and the BFI-2-XS containing

15 items only (Soto & John, 2017b). In contrast to other abbreviated measuring instruments, the BFI-2-S also allows the investigation of the most important Big Five facets in addition to the domains. Rammstedt et al. (Rammstedt et al., 2018) adapted the scales to German and validated all four measuring instruments. The result showed a high reliability and validity of the four scales.

Due to the requirements for increasingly faster measurement methods, even shorter instruments have been developed in the meantime. Examples are the A 10-item short version of the Big Five Inventory (Rammstedt & John, 2007) as well as the Five-Item Personality Inventory (FIPI) and the Ten-Item Personality Inventory (TIPI), which are supposed to be completed in one minute or less (Gosling et al., 2003). Researchers consider the fact that these short scales only capture the five broad factors and not the facets, which contain important additional information about personality, to be a significant disadvantage of these scales, which is why they recommend using these short versions only when assessment time is extremely limited or personality is not the main focus of the research (Gosling et al., 2003; Rammstedt et al., 2018).

Especially since in the planned survey besides personality other dimensions such as ambidexterity and psychological well-being are assessed, the overall length of the questionnaire must be kept limited. The 30-Item BFI-2-S has proven to be a reliable and valid instrument for the measurement of the Big Five personality traits and their most important facets with minimal time requirements (Rammstedt et al., 2018). Therefore, this instrument is used to determine the personality traits.

3.4.3.3 Organisational climate

As the literature review has shown, Anderson and West's (1994) Team Climate Inventory (TCI) is the most frequently applied instrument for measuring a team climate conducive to innovation or ambidexterity (Fischer et al., 2014; Kivimäki & Elovainio, 1999). However, due to the different conceptualisations of team climate already discussed in the literature review (see section 2.6), researchers have also proposed other models. For example, researchers who consider team climate as a firm-level phenomenon - in contrast to the present research, which conceptualises team climate as an individual perception of the employee - have measured the phenomenon with a 30-item scale that focuses on the three dimensions of information sharing, autonomy through boundaries, and team responsibility and accountability (Y. Y. Chang, 2016; Seibert et al., 2004). This measurement instrument is not considered suitable for the present research, since on the one hand its basic conceptualisation of the team climate does not correspond to the understanding of the present research and on the other hand there are hardly any studies available that have validated the instrument. Other researchers have focused their measurement on specific aspects of team climate such as psychological safety (Idris et al., 2014) or direct consensus (Glisson & James, 2002). These measurement instruments were also found to be incompatible with the broader understanding of team climate of the present research.

Because of its wide acceptance (Fischer et al., 2014; Kivimäki & Elovainio, 1999) and good fit with this research's understanding of team climate, the TCI was chosen to measure team climate. The TCI measures the four climate factors vision, participatory security, task orientation and support for innovation of proximal work groups. Anderson and West define a proximal work group as: *"either the permanent or semi-permanent team to which individuals are assigned, whom they identify with, and whom they interact with regularly in order to perform work-related tasks"* (Neil & Michael, 1998).

The dimension of vision is based on four factors: clarity (understandability of the vision), visionary nature (how much the result is appreciated by the group members and thus motivates them to commit to the team goals), attainability (degree to which the vision is realistic and concrete and thus achievable) and sharedness (degree to which the vision is accepted by all group members). The dimension of participative safety is also based on four factors: information sharing (the extent to which people exchange work-related information), safety (the extent to which work group members can express ideas and proposed solutions in a non-judgemental climate), influence (the degree to which individuals participate in decisions) and interaction frequency (the degree to which people interact with each other). Task orientation consists of the three dimensions of excellence (general committment of the work group members to excellence) and appraisal and ideation (climate that supports the introduction of improvements to existing practices). The support for Innovation dimension consists of the subscales articulated support (support for new ways of doing things, whether written in documents or orally conveyed) and enacted support (innovative behaviour).

The original TCI consists of 61 items. Anderson and West have later also developed a shortened version with 44 items (Anderson & West, 1994) which has subsequently been translated into different languages. An even shorter scale was developed by Kivimäki and Elovainio (Kivimäki et al., 2001; Kivimäki & Elovainio, 1999) by means of a confirmation factor analysis on the basis of the Finnish version of the original TCI. Their measuring instrument comprises 14 items from the original TCI of Anderson and West. The 14-item scale demonstrates high internal homogeneity and with a Cronbach's Alpha of .91 high reliability. The TCI-14 has been used and validated in several studies (Howard, Brazil, & Agarwal, 2011; M. Kivimäki et al., 2001; Somech & Drach-Zahavy, 2013). Due to its good applicability and proven validity, the TCI-14 is used in this research.

3.4.3.4 Job-related well-being

As discussed in the literature review (see section 2.4), Russell's (1980) circumplex model of affect is a widely used model for conceptualising affective experiences. Warr's (Warr, 1990) version of this model adapted to the work context serves as the theoretical basis for the present research. Based on his model, Warr (1990) has also developed a 12-item scale to measure affective well-being. With the question *'Thinking of the past few weeks, how much of the time has your job made you feel each of*

the following?' respondents are asked to rate their work-related positive feelings (calm, contented, relaxed, cheerful, enthusiastic, optimistic) and negative feelings (tense, uneasy, worried, depressed, gloomy, miserable) on a scale ranging from 1=never to 6=always. The measurement instrument captures the axes (2) anxious-contented and (3) depressed-enthusiastic. Warr considers the axis (1) displeased-pleased, which expresses job satisfaction, as a separate construct that can be measured with existing instruments. In the validation of his measurement instrument, Warr (1990) found a Cronbach's alpha of .81 and .79, respectively, which indicates a high degree of reliability. The scale was subsequently validated in numerous studies (Mäkikangas et al., 2007). Thus, the measurement instrument is widely recognised.

Based on Warr's model of affective well-being at work, with the Job-related Affective Well-being Scale (JAWS) another frequently used instrument for measuring work-related well-being was developed (Watson et al., 1988). While the JAWS is conceptually very similar to Warr's measurement tool, with 30 items it requires significantly more response time. Another well-known instrument is the Positive and Negative Affect Schedule (PANAS) (Watson et al., 1988). The instrument comprises 20 items that measure positive and negative general affect without specific context.

Warr's measurement instrument was chosen to assess work-related well-being in the present research. On the one hand, this measurement instrument was chosen because, with 12 items, it is significantly shorter than the other established instruments, which was an advantage due to the issue regarding the length of the questionnaire, and on the other hand, because it is specifically tailored to the work context and thus to the context of the present research. Furthermore, the measurement instrument is widely recognised and has been sufficiently validated (Mäkikangas et al., 2007; Mielniczuk & Łaguna, 2018).

3.4.3.5 Control variables

There is a broad recommendation in research theory to include control variables in investigations to rule out alternative explanations for the observed phenomena and to increase statistical power (Becker, 2005). However, Bernerth (2016) suggests that control variables should only be used in a targeted and justified manner. Following this advice, this dissertation uses only control variables that have been shown to be significant in previous research (Becker et al., 2016).

Such significant variables are, for example, demographic factors that have been shown to influence an individual's capability for individual ambidexterity (T. J. M. Mom et al., 2009; Rosing & Zacher, 2017; Tempelaar & Rosenkranz, 2017; Weibler & Keller, 2011) as well as the experience of work stress, psychological strain and burnout (de Jonge et al., 2000; Lin et al., 2015; Maslach & Jackson, 1981). For all control variables investigated in the present research, their theoretical rationale and operationalisation are discussed in the following.

3.4.3.5.1 Gender

It is widely known in literature that there are significant gender differences in various aspects of well-being (Graham & Chattopadhyay, 2013; Moen, 1996; Roothman et al., 2003). Numerous previous studies have further found that different types of stress have more negative consequences, such as reduced job satisfaction and performance and a higher rate of burnout, for women than for men (Babin & Boles, 1998; B. C. P. Kim et al., 2009). Furthermore, moderating effects of gender on the relationship between job stressors and their consequences, such as the individual's well-being, have been found (Karatepe et al., 2006; B. C. P. Kim et al., 2009).

Also in personality research, significant differences have been found in relation to gender (Plaisant et al., 2010). For example, research has shown that regardless of culture, women generally score higher than men on neuroticism and agreeableness (Schmitt et al., 2007). To a lesser extent, women further tend to score higher on certain facets of extraversion and openness to experience (Schmitt et al., 2017).

Gender differences were also found in innovation, creativity and entrepreneurship, which are concepts closely related to ambidexterity (Abraham, 2015; Baer & Kaufman, 2008; Michael Crant, 1996; Pons et al., 2016). Moreover, von Wittich and Antonakis (2011) found in their study that cognitive style, as measured by Kirton's Adaptation-Innovation Inventory (KAI), can be largely predicted by gender. The cognitive style, in turn, has been shown to be an important predictor of the individual's exploitation and exploration behaviour (de Visser & Faems, 2015).

Overall, previous research has found various direct and moderating influences of gender on the concepts examined with this research, which is why gender differences are investigated in the hypothesis testing.

In scientific surveys, the most common response options to the question about sex or gender include the two options '*male*' or '*female'* (Lussenhop, 2018). However, such binary questions pose a significant risk of ethical violations in the treatment of participants, even if they are only collected for demographic reporting purposes (J. J. Cameron & Stinson, 2019). In Germany, according to the Bundestag resolution of 22 December 2018, it is permitted for citizens to have their gender recorded in the civil status register not only as male or female, but now also as diverse. Since then, all official surveys must offer at least these three answer options when asking about gender (Lenzner et al., 2019). In Switzerland, an identical legal amendment is currently under consultation (Schweizerisches Zivilgesetzbuch (Änderung Des Geschlechts Im Personenstandsregister), 2019). However, many Swiss research bodies are already following the guidelines of their large neighbour. In accordance with these developments, the answer options '*male'*, '*female*', '*divers'* and additionally the option '*prefer not to say'* were used for the gender question in this questionnaire.

3.4.3.5.2 Age

Numerous previous studies have found moderating effects of age on the relationship between work characteristics and occupational well-being (Zacher & Schmitt, 2016). For example, Ng and Feldman (2015) found a positive moderating effect of age on the negative relationship between job autonomy and emotional exhaustion. Further, they found a negative moderating effect of age on the negative relationship between job autonomy and poor mental health and perceived job stress. Zaniboni, Truxillo and Fraccaroli (2013) found a negative moderating effect of age on the relationship between task variety and the experience of burnout. As their results showed, the negative relationship between task variety and burnout is stronger for younger employees than for older ones. Furthermore, Matthews, Bulger and Barnes-Farrell (2010) found a positive moderating effect of age on the relationship between job stressors and perceptions of work-family conflict. As their study showed, job stressors increased the perception of work-family conflict among older employees to a greater extent than among younger employees. At the same time, they also found a positive moderating effect of age on the relationship between social support and perceptions of work-family conflict. Their study showed that social support was more effective in reducing perceptions of work-family conflict among older employees than among younger employees.

Given these moderating effects of age found in previous research, the present research controls for potential similar influences in the hypothesis testing in order to rule out alternative explanations (Becker, 2005; Becker et al., 2016).

In order to ensure anonymity, initially not the exact age was asked, but six age groups were given for selection (- 19 years, 20 - 29 years, etc.). However, as the analysis of the sample revealed, it is impossible to identify the participant even if the exact age is provided. This is because only the job function is requested from the participant and no information is asked about the department or even the team where he works. For this reason it was decided to ask for the exact age. In the cognitive interviews of the pre-test phase, all participants stated that they would not question the confidentiality of the survey if they had to indicate their exact age. The request for the exact age is in line with the recommendations of Hughes, Camden and Yangchen (J. L. Hughes et al., 2016).

3.4.3.5.3 Tenure

Tushman and O'Reilly (1996) have suggested that employee tenure, along with age, has a positive influence on ambidextrous behaviour. However, Mom, van den Bosch and Volberda (2009) found in their survey of 755 managers from five successful large companies operating in different manufacturing and service industries that tenure in the current function is negatively related to individual ambidexterity, while tenure in the company is positively related to individual ambidexterity. Tempelaar and Rosenkranz (2017) argue that experience can be regarded as an indicator of

expertise, but it may also lead to habitual behaviour and thus influence employees' ambidexterity behaviour. In their study, which addressed the question of what enables individuals to manage the dilemma between exploitation and exploration, they therefore included tenure as a control variable to rule out alternative explanations.

From their analysis of panel data from the Household, Income and Labour Dynamics in Australia (HILDA) survey, Green and Leeves (2013) concluded that the psychological well-being of casual workers improved with increasing tenure. Ramos, Jenny and Bauer (2016) found from the data of almost two thousand workers from Germany, Austria and Switzerland that high tenure workers experience less burnout than their low tenure peers when quantitative job demands are low. However, when quantitative job demands are high, high tenure workers reported higher levels of burnout than low tenure workers.

Based on these effects of tenure on well-being as well as on individual ambidexterity found in previous research, and following the recommendations of Tempelaar and Rosenkranz (2017), the present research considers tenure as a control variable.

In line with previous research, organisational tenure was surveyed with the question *'For how long have you been working at Swiss Post?'* and functional tenure was surveyed with the question '*For how long have you been working in your current position?'* (T. J. M. Mom et al., 2015; Schudy, 2010). Rating was done on a five-point Likert scale with values '*less than 1 year'* to *'30 years and more'.*

3.4.3.5.4 Education

Mom, van den Bosch and Volberda (2009) argue that higher levels of education may have a positive impact on individual ambidexterity because of the associated higher cognitive abilities to process information and learn. However, Keller and Weibler (2014) found a significant negative correlation between the possession of a university degree and engagement in exploitation tasks. They did not find an association between the possession of a university degree and engagement in exploration tasks.

More clear results on the effect of education have been found in well-being research. In their comprehensive analysis of national social survey data from 100,000 randomly selected Americans and Britons from the early 1970s to the late 1990s, Blanchflower and Oswald (2004) found a positive effect of education on psychological well-being. From cross-cultural research, it is further known that people in countries with a high level of education generally experience less work stress than people in countries with a low level of education (Lunau et al., 2015).

Since previous research indicates that education may influence psychological well-being and potentially also ambidexterity behaviour, the statistical analysis of the research questions will control for the influence of education.

For the survey on the highest level of education, the scale from the Swiss Earnings Structure Survey (FSO, 2020) of the Federal Statistical Office (FSO) is used. This scale is not only used in the Swiss Earnings Structure Survey but also in other federal statistics and is therefore widely established. It is also used in Swiss Post's HR management system to record the highest level of employee education. The measuring instrument requires participants with a university or university of applied sciences degree to also indicate their academic title.

3.4.3.5.5 Job function

Previous research on individual ambidexterity has shown that employees engage to different extents in exploitative and explorative tasks depending on their job function (Keller & Weibler, 2014; T. J. M. Mom et al., 2009; Weibler & Keller, 2011). For example, Mom, Van Den Bosch and Volberda (2007) found that employees in the research & development and marketing & sales functional areas engage more in explorative tasks than employees in other functional areas.

Previous research has further found significant differences in various aspects of psychological well-being between different occupational groups (Ariza-Montes et al., 2018; Hofmann et al., 2018). For example, Hofmann, Gander and Ruch (2018) found higher levels of life satisfaction among managers and professionals and higher levels of pleasure among service and sales workers compared to other occupational groups. Liu, Spector and Shi (2008), in their study of university faculty of all ranks and university staff from different administrative job groups, found that workers in different occupations experience different levels of work stress and that workplace stress varies by occupation.

Since previous research has shown that job function can influence individual ambidexterity as well as psychological well-being, the present research includes job function as a control variable to ensure that the effects found in the analysis are actually attributed to the research variables.

The participant's functional area was initially requested on the basis of a list from Swiss Post's HR Controlling department, which lists all the main functions within the Group. However, as the pre-test revealed, it was difficult for some participants to fit themselves into this list. The reason was probably that the classification of the functional areas in this list referred to salary and hierarchy levels rather than to the actual job activities. For this reason, it was decided in the pre-test phase to apply the job function classification according to the public job portal of Swiss Post instead of this list. This job categorisation is kept very general and is also easy to understand for individuals outside Swiss Post.

3.4.3.5.6 Hierarchical level

Studies have shown that employee ambidexterity increases with hierarchy and employees with leadership responsibilities show higher levels of ambidexterity than employees without leadership responsibilities (Keller & Weibler, 2015; T. Mom, 2006; Weibler & Keller, 2011). Mom (2006) had found that frontline managers tend to specialise in either exploration or exploitation, while senior and mid-level managers are equally highly engaged in exploitative and explorative tasks, or in other words ambidextrous.

Furthermore, previous research has shown that leadership responsibility is positively related to various aspects of psychological well-being (Lundqvist et al., 2013; Nyberg et al., 2015; Skakon et al., 2011). For example, managers with leadership responsibilities have been found to experience significantly less emotional work-related stress than other employees, despite the higher demands placed on them (Lundqvist et al., 2013; Skakon et al., 2011). Furthermore, Nyberg, Leineweber and Magnusson Hanson (2015) found that managers with leadership responsibilities are generally more satisfied with their work and life and are taking less sick leave than other employees.

Due to the influence of hierarchy level on individual ambidexterity as well as psychological well-being found in previous research, hierarchy level is included as a control variable when designing the research instrument and will be controlled for during data analysis.

Hierarchical level was surveyed with the simple question *'Are you a line manager?'*, for which the answers yes and no could be chosen.

3.4.4 Development of the source language questionnaire (SLQ)

In multilingual studies, the starting point for the translations is usually a so-called source language questionnaire (SLQ), which is mostly available in English (Kazi & Khalid, 2012). Depending on the approach taken, the SLQ can either be in a finalised form or in the form of a draft (Harkness & Schoua-Glusberg, 1998).

This research follows the approach that the SLQ only undergoes a pre-test and not a comprehensive finalising pilot test. This is for the practical reason that there would not be a large enough number of representative participants for a pilot test of the English SLQ. A pilot test should always be carried out with a group of participants that is as similar as possible to that of the field survey (De Vaus, 2013). In the case of this research, this would mean that Swiss Post middle managers would have to be engaged for the pre-test of the SLQ according to the planned sample. However, most Swiss Post middle managers are native speakers of German or French and are therefore not suitable for testing the English language SLQ. In this research, the translation process is therefore regarded as an

iterative process, as recommended in literature (Forsyth et al., 2007), so it is possible that findings from the testing of the translated versions may also lead to adjustments in the SLQ.

3.4.4.1 Aims and objectives of the SLQ

The SLQ serves as a basis for all language versions of the questionnaire. Since the SLQ in this research has the status of a draft, it is developed more or less in parallel with the language versions (Harkness & Schoua-Glusberg, 1998). However, it is important that it always has a leading role and serves as a template for all further adaptations. This is because the SLQ serves as the central communication instrument for all those involved in the translation process (Kazi & Khalid, 2012).

The SQL must therefore contain all elements to be included in the translated field research instruments. In addition to the questions of all applied scales, this includes in particular an introductory text which explains the purpose and the general conditions of the research (Burns & Bush, 2016). For the participant, the introduction must at least state who is conducting the study, what happens with his data and who he can contact in case of questions (Saunders et al., 2015). The introduction should arouse interest in the study and motivate people to participate and thus positively influence response rates (Burns & Bush, 2016).

Another important element of the SLQ are the closing remarks. Here it is important to thank the participant for his time and honest answers to the questions and to repeat the purpose of the study as well as the contact details (Saunders et al., 2015). Special attention should be paid to the formal design of the questionnaire as it can influence response rates (Saunders et al., 2015). Specifically, the response rate can be improved by ensuring that the questionnaire is of an appropriate length and that it is user-friendly, appealing and clearly laid out (Bryman, 2012).

3.4.4.2 Application of existing research instruments

There are basically three options for the researcher when creating the questionnaire. They can either apply already existing scales, adjust existing scales to his particular needs or develop completely new scales (Kazi & Khalid, 2012). Researchers generally recommend that new research instruments should only be developed where there are no existing scales for measuring the phenomenon under consideration or where existing instruments have major and confirmed limitations (Bastos et al., 2014). A major advantage of using existing measuring instruments is that they have already been tested and applied in previous research, so there is a good chance that they are reliable (Hyman et al., 2006). Another important advantage of reusing measuring instruments is the comparability of the results with those from previous research (Bastos et al., 2014).

However, there are also warnings in the literature concerning possible threats from the use of existing scales. In general, the use of an unreliable measuring instrument can obviously result in poor data quality (Hyman et al., 2006). Furthermore, it is pointed out that it cannot be assumed that an instrument that has proven to be reliable and valid in one environment will be so in another (Meadows, 2003). This also applies if a different mode of management is chosen for the questionnaire (Kazi & Khalid, 2012).

As the previously discussed literature analysis has shown, for all concepts and variables to be measured there are measurement instruments in English language available that have already been tested. For this research it makes absolute sense to apply these scales. In order to address the potential risks associated with the use of existing measuring instruments, it has been made sure that all scales have achieved a minimum Cronbach's Alpha of .70 in the previous studies (Taber, 2018).

Table 6 provides an overview of all scales applied for the draft SLQ including their Cronbachs Alpha values achieved in previous research.

Table 6: Measuring instruments applied for the source language questionnaire (SLQ)

Dimension	**Measure**	**Scale**	**Items**	**Cronbachs Alpha**
Demand for ambidexterity	(T. J. M. Mom et al., 2009)	7-point scale (1=to a very small extent to 7= to a very large extent)	14	exploration = .90; exploitation = .87 (T. J. M. Mom et al., 2009)
Personality	BFI-2-S (Soto & John, 2017b)	5-point scale (1=Disagree strongly, 2=Disagree a little, 3=Neither agree nor disagree, 4=Agree a little, 5=Agree strongly)	30	.87 (Soto & John, 2017a)
Employee well-being	Warr's scale of job-related affective well-being (Warr, 1990)		12	.81/.79 (Warr, 1990)
Organisational Climate	(Mika Kivimäki & Elovainio, 1999) Psychometric test of the Team Climate	5-point scale, anchored by 'strongly disagree' and 'strongly agree'	14	English = .91 (Kivimäki & Elovainio, 1999)

	Inventory-short version investigated in Dutch quality improvement teams, p. 3 --> Likert-Scale			
Age		integer	1	
Gender		male, female, divers, prefer not to say	1	
Education	(FSO, 2020)		1	
Title		*Optional question depending on education*	*1*	
Functional area		Classification of job functions according to the public job portal of Swiss Post	1	
Tenure in company		less than 1 year, 1 to 3 years, 4 to 9 years, 10 to 29 years, 30 years and more	1	
Tenure in current function		less than 1 year, 1 to 3 years, 4 to 9 years, 10 to 29 years, 30 years and more	1	
Management responsibilitie	(Keller & Weibler, 2011)	Boolean	1	
Total items			**77 *(78)***	

To further minimise the risk of poor data quality, the draft SLQ is subsequently subjected to a pre-test (Schrauf & Navarro, 2005).

3.4.4.3 Pre-test of the SLQ – cognitive interviews

The draft SLQ was developed from the above-mentioned scales, additional questions for the control variables (see section 3.4.3.5) as well as an introductory text and a closing statement. It was subsequently made available in its final version and presentation on the university's survey platform (Jisc Online Surveys). Pre-testing was conducted in the form of cognitive interviews.

Cognitive interviews are a powerful tool for uncovering misunderstandings, inconsistent interpretations, social desirability, contextual effects and other issues that can lead to unreliable data (Collins, 2003). Self-administered questionnaires in particular are at risk of such problems (Presser et al., 2004). Respondents may answer questions as a matter of courtesy without understanding exactly what the question requires of them (Collins, 2003). Another potential issue is social desirability. This is a form of response bias that results from the tendency of respondents to answer questions in a way that they believe will be positively valued by others (Neuman, 2014).

The method of cognitive interviews is based on the question-answer model derived from cognitive psychology. This model proposes four actions that the respondent must perform to answer a question. 1. he must understand the question, 2. he must retrieve the necessary information from his long-term memory, 3. he must judge the information and 3. he must formulate the answer to the question (Willis, 2014). However, in reality, the question-and-answer process is likely to be non-linear, involving numerous iterations and interactions between the different phases (Collins, 2003). The question-and-answer model is presented in figure 16.

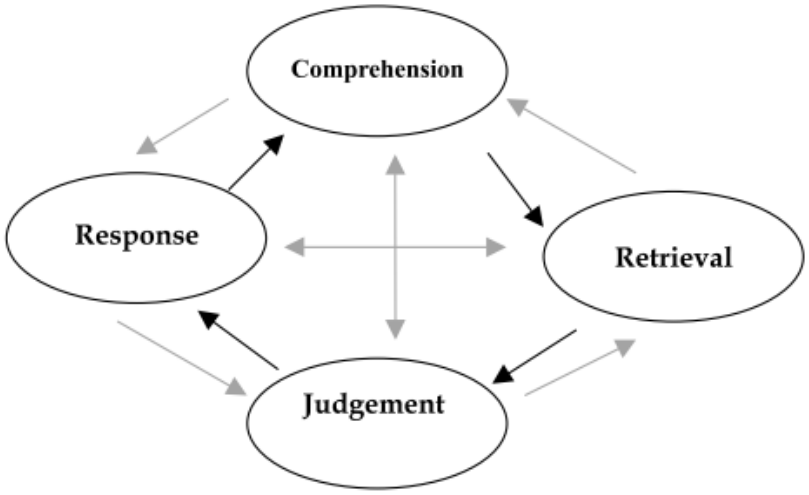


Figure 16: Question-and-answer model. Source (Collins, 2003)

Cognitive interviews usually employ the two methods of think-aloud interviewing and verbal probing (Willis, 2014). Under the think-aloud interview method, thought protocols of the respondents are created. For this purpose, the respondent fills in the questionnaire and simultaneously or retrospectively expresses his or her thoughts on the individual questions (Presser et al., 2004). In contrast to the think-aloud interview, which is driven by the respondent, in the verbal probing method the researcher takes the active part by asking concrete questions. The procedure of verbal probing can also be carried out concurrently or retrospectively. In concurrent verbal probing, the researcher asks the participant additional, specific questions while working through the questionnaire, for example

about his understanding of a particular concept. In retrospective probing, the questions are only asked after the questionnaire has been completed (Haeger et al., 2012).

For the pre-test of the SLQ, both the think-aloud method and verbal probing were used. The main objective of this pre-test was to verify whether the questions were applicable to the Swiss Post environment and whether they were clear and understandable for middle managers from all work areas. Five managers who work at Swiss Post's headquarters and are native speakers of English or use English in their daily work were selected as test participants.

Basically, the questionnaire was assessed as clear and comprehensible by all six test participants. The participants were of the opinion that the questions should be easy to answer by middle managers from all work areas.

Two of the test participants criticised the fact that the ambidexterity scale did not provide a response option when an activity was never demanded. Indeed, the measuring instrument of Mom, Van Den Bosch and Volberda (2009) employed in the SLQ uses a 7-point Likert scale ranging from 1 = to a very small extent to 7 = to a very large extent. This problem was found to be in need of correction in the discussion with the research manager. As a solution, the first point of the original Likert scale from Mom, Van Den Bosch and Volberda was adjusted to 1 = to a very small extent or not at all.

Another source of criticism was the 5-point Likert scale of the Team Climate Inventory (TCI-14). A test participant as well as the research manager drew attention to the fact that the 5-point Likert scale 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree used in the original (N. Anderson & West, 1994) and shortened TCI (Kivimäki & Elovainio, 1999) can cause confusion. It was criticised that the scale does not match with numerous items (e.g., '*2. To what extent do you think your team's objectives are clearly understood by other members of the team?*' or '*3. To what extent do you think your team's objectives can actually be achieved?*". This potential problem has been addressed by applying a widely established scale from '*1 = not at all*' to '*7 = very much*' (Awang et al., 2016) as in other studies using the TCI-14 (Somech & Drach-Zahavy, 2013).

Finally, the question of the age of the employee led to discussions with the research manager of the university. As has already been done in similar studies, it was initially planned to ask not for the exact age, but for the age group. The idea was that this would improve anonymity. However, especially since the survey does not ask about the team but about the job function, it is not possible to draw conclusions about the person even with the exact age given the large sample. This is in line with the recommendations of Hughes, Camden and Yangchen (2016).

The questionnaire adapted in the three points just discussed was used as the basis for the development of the German and French versions.

3.4.5 Translation of the questionnaire

Multilingualism is a peculiarity of Switzerland and thus also of companies operating on a nationwide basis. Four national languages are officially spoken in Switzerland, namely German, French, Italian and Romansh. The four languages are regionally predominant, with the language regions having a deep historical background namely the romanisation by the Celts and Rhaetians and the expansion of the Alemannians (Pap, 1990). Northern and Eastern Switzerland are home to die Deutschschweiz, the large German-speaking part of Switzerland. La Suisse Romande, the French-speaking region, is located in the west of Switzerland. In the south of Switzerland lies the Italian-speaking region la Svizzera italiana. Finally, there are some small Romansh islands in the canton of Graubünden, in the southeast of Switzerland (Kuzelewska, 2016). The language regions do not coincide with the political regions or religious boundaries (Kuzelewska, 2016). Consequently, cultural differences cannot be ascribed to the language regions.

As can be seen from the statistics of the Federal Statistical Office (FSO) presented in figure 17, more than 60% of the Swiss population are native (Swiss) German speakers and more than 20% native French speakers. The proportion of the Italian-speaking population is less than 10% and that of the Romansh-speaking population even less than 1%.

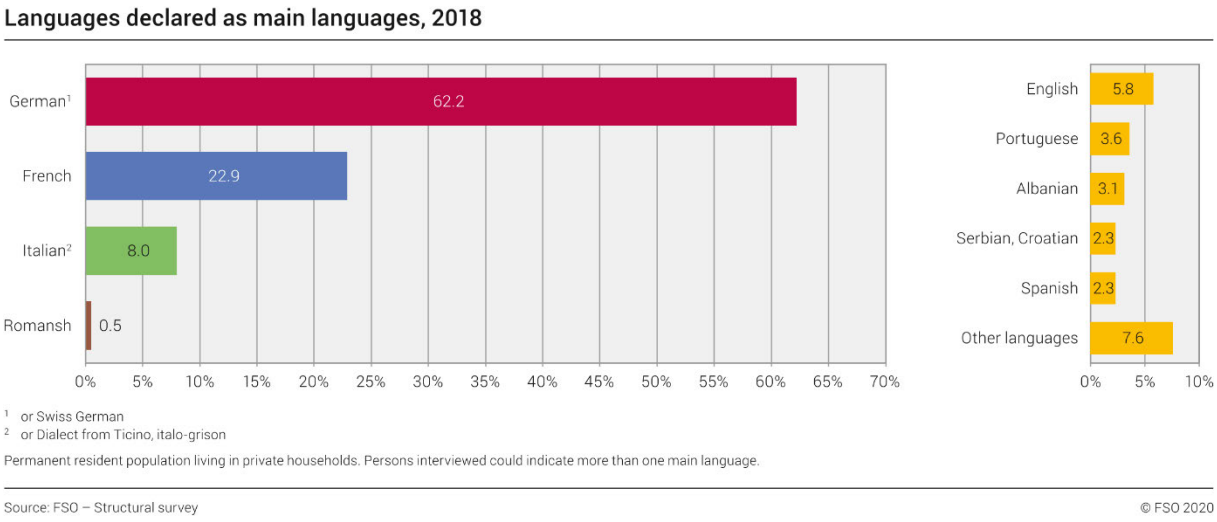


Figure 17: Languages declared as main languages, Swiss Federal Statistical Office, 2018

German, French and Italian are so-called official languages. This means that, according to the 'Federal Act on the National Languages and Understanding between the Linguistic Communities' enacted in 2004, all official publications such as laws or regulations must be published in all three languages (The Federal Assembly of the Swiss Confederation, 2004). However, in practice, official documents, with the exception of laws, are sometimes published only in German and French, for reasons of economy and the low proportion of Italian and Romansh speaking citizens.

At the time of this study, the proportions of German-, French-, Italian- and Romansh-speaking Swiss Post employees roughly correspond to those of the Swiss resident population. Especially as the proportions of Italian-speaking employees (6% according to the 2019 Swiss Post Annual Report) and Romansh-speaking employees (0.4% according to the 2019 Swiss Post Annual Report) are very small, these groups are being excluded from the survey in view of the considerable efforts required to translate the research instrument (a more in-depth discussion of this issue is provided in the sampling section 3.3.3). For the survey of the German- and French-speaking employees, the SLQ questionnaire had to be translated into these two languages.

3.4.5.1 Translation principles and objectives

The translation of research instruments is challenging and requires a structured approach and the application of proven strategies (Sousa & Rojjanasrirat, 2011). Achieving equivalence between the different language versions of a research instrument is the main objective and at the same time the central issue in the development of intercultural research instruments (Cha et al., 2007; Curtarelli & van Houten, 2018; Epstein et al., 2015; Guillemin et al., 1993). Eremenco, Cella and Arnold (2005, p. 213) define translation equivalence as: "*unbiased measurement between two translated instruments such that any differences detected are the result of true differences between the groups being assessed and not the result of differences inherent in the measurement tool used to gather the data.*"

In literature, a distinction is made between different forms of equivalence (D. E. Beaton et al., 2000; Cha et al., 2007; Herdman et al., 1997). Often discussed are the five types of content equivalence, semantic equivalence, technical equivalence, criterion equivalence and conceptual equivalence proposed by Flaherty and colleagues (1988).

Content equivalence refers to the fact that the content of the individual item is equally relevant in both cultures (Beck et al., 2003; Mallinckrodt & Wang, 2004). For example, there would be no content equivalence if an item were included that is considered taboo in certain cultures, such as aspects of sexual behaviour (Herdman et al., 1997). This research ensures content equivalence by means of a rigorous back-translation process and reviews by bilingual experts (Dhamani & Richter, 2011; Eremenco et al., 2005).

Semantic equivalence indicates that the translated items have the same meaning in all languages (Epstein et al., 2015) (Mallinckrodt & Wang, 2004). An item does not have different meanings and cannot be interpreted differently and the translation is grammatically correct (D. Beaton et al., 1998) (Herdman et al., 1997). Herdman, Fox-Rushby and Badia (Herdman et al., 1998) suggest that in order to achieve semantic equivalence it is important that the translators have a good understanding of the key words and expressions in the questionnaire. In the translation process for the questionnaire for this research, this advice is taken into account by discussing the items of the source instrument with

the translators involved in advance and explaining them clearly their meanings and backgrounds. In the present research, semantic equivalence is ensured on the one hand by reviews of the translated instruments by bilingual experts (Dhamani & Richter, 2011; Zun et al., 2019) and on the other hand by statistical analyses, namely factor analyses (Mallinckrodt & Wang, 2004).

Technical equivalence is given if the data collection method (for example, by questionnaire, personal interview or another technique) produces comparable results in each culture (Beck et al., 2003; Mallinckrodt & Wang, 2004). Technical equivalence is ensured by verifying the usability and acceptance of the survey tool (Sousa & Rojjanasrirat, 2011).

Criterion equivalence indicates that the interpretation of the measurement remains the same with respect to the norms that apply in each culture under investigation (Beck et al., 2003; Mallinckrodt & Wang, 2004). Criterion equivalence is ensured by checking the uniform understanding of the questions during cognitive interviews (Dhamani & Richter, 2011; Zun et al., 2019).

Conceptual equivalence is given if the instrument measures the same theoretical construct in each culture (Epstein et al., 2015; Råholm et al., 2010). For example, the word ‘family’ is used in different cultures to refer to a circle of people of different degrees of kinship (D. Beaton et al., 1998). Items may be semantically equivalent, but the concept under investigation may be understood or experienced differently in the target culture (Mallinckrodt & Wang, 2004). In the translation process of this project, conceptual equivalence is ensured by employing bilingual members of the target culture as translators (Zun et al., 2019) as well as by verifying the uniform understanding through cognitive interviews (Cha et al., 2007; Zun et al., 2019)

These five dimensions of equivalence are more or less independent of each other, meaning that a research instrument can be cross-culturally equivalent on one or more of these dimensions and non-equivalent on others (Beck et al., 2003). Equivalence of the adapted research instrument in all five dimensions cannot normally be achieved through direct translation of the instrument from one language to another (Cha et al., 2007). Rather, a structured, rigorous translation process is essential (Arafat et al., 2016). The translation process applied in this research is discussed in detail in the following section. The results of the verification of the different dimensions of equivalence are presented within the discussion of the results of the pilot test in section 3.4.9.

3.4.5.2 Translation process

Research literature outlines different processes and procedures for translating questionnaires (Harkness & Schoua-Glusberg, 1998; Sousa & Rojjanasrirat, 2011). All of them have advantages and disadvantages, there is no agreement on the best approach (Epstein et al., 2015). The approaches

described in literature can be roughly divided into three types of translation methods: one-way or expert translation, committee approach and forward-backward-translation (Råholm et al., 2010).

One-way translation, in which a single translator translates the source instrument into the target language, is the fastest and cheapest method (Sousa & Rojjanasrirat, 2011). The main disadvantage of this method is that the validity and reliability of the translated instrument is completely dependent on the knowledge and skills of the single translator and the competence of the translator is difficult to verify (Dhamani & Richter, 2011; Råholm et al., 2010).

Another common method is the committee approach, where the translation is done by a focus or expert group (Eremenco et al., 2005). With this method, the result no longer depends on a single translator and is therefore probably more accurate than with the one-way translation. In practice, however, it is often very difficult to bring together a group of experts and consensus building can be very tedious due to different thematic and linguistic knowledge of the individuals (Dhamani & Richter, 2011).

The most elaborate approach is the forward-backward-translation, where the source instrument is first translated by a bilingual expert into the target language and then by another bilingual expert translated back into the source language for quality assurance purposes (D. E. Beaton et al., 2000; Råholm et al., 2010). The disadvantage of this method is that it is very time consuming and expensive. Also, the availability of bilingual experts is often limited (Råholm et al., 2010). Furthermore, back-translation does not provide an absolute guarantee that there is actually equivalence between the source and target instrument (Dhamani & Richter, 2011). However, the back-translation method dramatically increases the chances of achieving the five dimensions of equivalence described in the previous section compared to other translation approaches (Mallinckrodt & Wang, 2004).

Although the procedure is time-consuming and expensive, the literature generally recommends preferring a rigorous version of the back-translation approach to other methods when translating questionnaires in order to ensure valid and reliable data (D. E. Beaton et al., 2000; Dhamani & Richter, 2011; Sousa & Rojjanasrirat, 2011). This is why this approach was chosen for this research. According to this process, the questionnaire was first translated into the target language by two independent translators. In the next step, the two versions were consolidated and then translated back into the source language. Finally, the back-translated questionnaire was compared with the original measuring instrument, adjusted, if necessary, revised and finalised.

All translation work was be carried out by bilingual professionals working for Swiss Post, who therefore are very familiar with the target environment of the survey. Experts point out that the availability of qualified bilingual translators strongly enhances quality of the resulting instrument (Cha et al., 2007; Epstein et al., 2015).

The translation followed the process suggested by Eremenco, Cella and Arnold (2005), which is illustrated in figure 18.

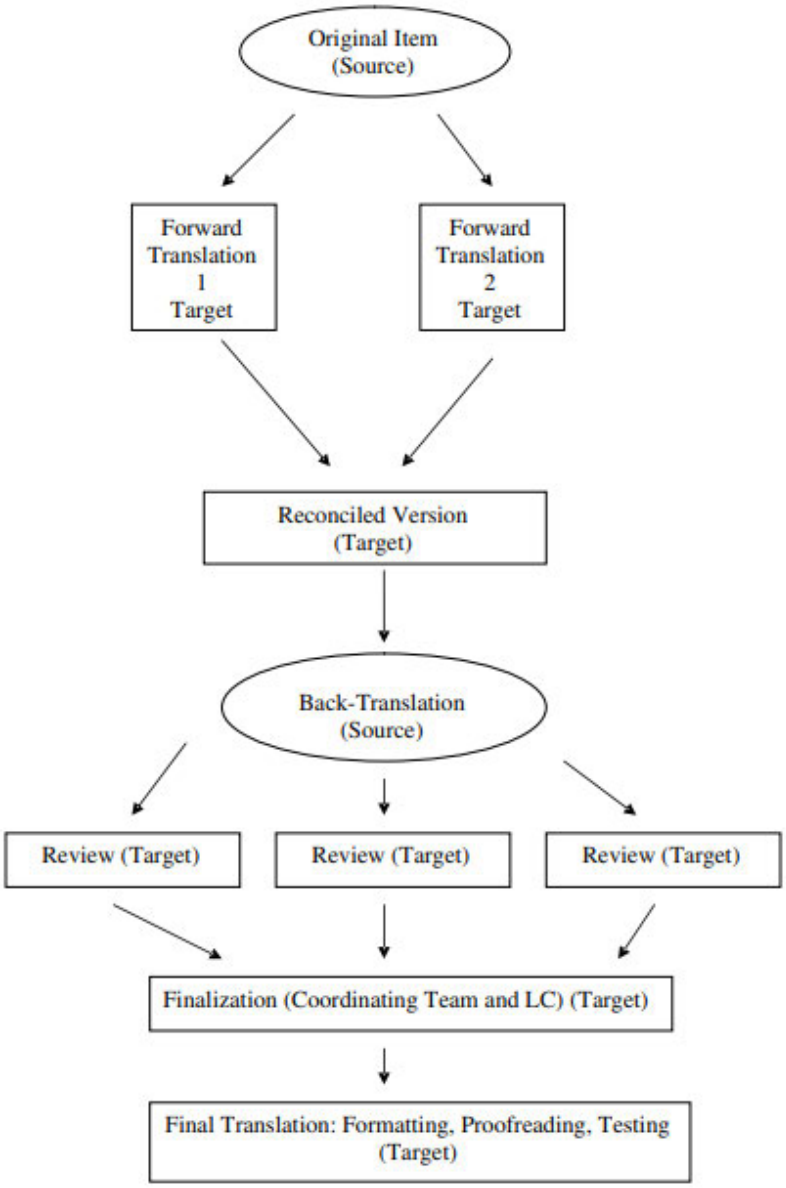


Figure 18: Intercultural questionnaire translation process. Source: (Eremenco et al., 2005)

3.4.5.3 German version

The first step in the development of the German version of the research instrument was a comprehensive literature research, looking for any existing German versions of the scales applied in this research. As the literature analysis revealed, German language versions already existed for all measuring instruments employed in SQL.

The individual ambidexterity scale (T. J. M. Mom et al., 2009) has been almost completely translated into German by Keller and Weibler (2011) in the course of developing their own measuring instrument. Their measurement instrument has been sufficiently validated in multiple German studies (Keller, 2019; Keller & Weibler, 2014, 2015). The translated items of Keller and Weibler are used in this research as a basis for the German questionnaire and are tested again in the test of this questionnaire with regard to discriminatory power and internal consistency.

There was also already a German version available for the BFI-2-S scale (Soto & John, 2017b) which is used to assess the personality factors. Danner and colleagues (2016) had completely translated and validated the 60-Item BFI-2 Scale of Soto and John in German. Based on this German version, Rammstedt, Danner, Soto and John (Rammstedt et al., 2018) later also comprehensively validated the two short variants, the 30-item BFI-2-S and the 15-item BFI-2-XS. Based on a heterogeneous sample of 1338 respondents, the researchers demonstrated that the psychometric properties of the German scale are consistent with those of the Anglo-American source versions and that there is considerable convergence between the two versions. In view of these results, the measuring instrument was included as is in the German questionnaire for this research.

Also, for the TCI scale used to assess the team climate, a comprehensively validated German version was already available. In the course of extensive research, Brodbeck, Anderson and West (Brodbeck et al., 2000) had translated the 44-item measuring instrument from Anderson and West (N. Anderson & West, 1994) into German. The instrument referred to as ‘Team Climate Inventory (TKI)’ has been thoroughly validated (Brodbeck & Maier, 2001) and used in numerous studies (Fischer et al., 2014; Van Dick et al., 2004).

Taking into account the peculiarities of the German language, it was not possible for the authors (Brodbeck et al., 2000) to formulate all items of the TKI in such a way that a uniform Likert scale could be used for the evaluation. This is why the TKI uses two separate 5-point likert scales, the points of which are named differently. From ‘trifft gar nicht zu (1)’ bis ‘trifft völlig zu (5)’ respectively from ‘in sehr geringem Umfang (1)’ bis ‘in sehr großem Umfang (5)’. This made it necessary to modify the order of the items of the original measuring instrument.

In the German questionnaire for this research not the whole TKI was included, but only the 14 items according to the short version of Kivimäki and Elovainio (Kivimäki & Elovainio, 1999).

There was also a German version of Warr's (1990) work-related affective well-being scale available. Kovacs, Stiglbauer, Batinic and Gnambs (2018) had translated Warr's scale into German and validated it comprehensively. The measuring instrument has demonstrated a Cronbach's alpha of .91. The authors have given permission to apply their German version of the scale for this study as per their explicit consent of June 2019.

The existing German versions of the research instruments have all been developed for and tested in Germany. An examination of possible equivalence problems due to potential cultural differences between Germany and Switzerland is conducted within the pre-tests (D. Beaton et al., 1998). However, no major cultural discrepancies between German-speaking Switzerland and its neighbour Germany are expected. It is known from studies that the three Swiss language regions have culturally more in common with their same-language neighboring countries than with each other: "*The French-Swiss stand facing towards France; the Italian-Swiss facing towards Italy; and the German-Swiss facing towards Germany, each focused on their own internal cultural life and the culture of the neighboring country whose language they share.*" (Kymlicka, 2003, p. 155).

The list of functional areas, which is used for the selection list of the current job function, was already available in all official Swiss languages and did not need to be translated. The same applies to the list of the highest educational level.

3.4.5.4 French version

As with the development of the German version of the questionnaire, the first step in the development of the French version was a thorough literature research of already existing French versions of the scales applied. No French version could be found for the ambidexteritry scale of Mom, Van Den Bosch and Volberda (2009).

Regarding the scale for measuring personality traits, Plaisant and colleagues (Plaisant et al., 2005) have developed a French version of the initial 44-item Big Five Inventory, which is well validated (Plaisant et al., 2010) and has been used in numerous studies to date. However, as the newer 30-item BFI-2-S is used in this study, the scale of Plaisant and colleagues is not directly applied, but the BFI-2-S is translated into French using the forwards-backwards method. The scale of Plaisant and colleagues is used to verify the translation.

Also, for the original TCI no validated French version could be identified. Beaulieu and colleagues (Beaulieu et al., 2014) created and validated a 19-item French version of the original TCI from Anderson and West (N. Anderson & West, 1994). However, this French version is not compatible with the measuring instrument of Kivimäki and Elovainio's (1999) applied in this research and can therefore not be included.

Since no French version could be identified for any of the measuring instruments applied in this research, the entire source language questionnaire had to be translated. The translation was carried out following the translation process described in section 3.4.5.2.

The list of functional areas, which is used for the selection list of the current job function, was already available in all official Swiss languages and did not need to be translated. The same applies to the list of the highest educational level.

Following this process, in a first step the initial questionnaire was translated from English into French by two independent translators. The translators were native French speakers who were fluent in English and used English in their daily work. The two translated versions were then discussed with a third independent translator. For each item, the more comprehensible and accurate version of the two translations was selected by consensus of the three translators. In a few cases, the selected translation of the item was slightly modified.

The only point that led to discussion in this step was whether the male and female forms should be listed for the personal characteristics (questions about personality and personal well-being). Unlike in German and English, there are male and female forms for adjectives in French. For example, the translation for the characteristic of an individual '*Has little creativity*' is '*Est peu créatif*' if a male person is concerned and '*Est peu créatifve*' if a female person is concerned. Especially since in Switzerland great emphasis is placed on gender neutrality and therefore it is common to mention the female and male form, it was decided to choose this variant. The translation for the above-mentioned example is therefore '*Est peu créatif(ve).*'. While some readers will argue that this notation hampers readability, it should be mentioned that this is the more correct variant, which is common in more formal surveys in Switzerland.

The retranslated questionnaire was then compared with the original measuring instrument, and discrepancies were discussed between the four translators involved. Slight inconsistencies were found only in the measuring instrument for personality factors (BFI-2-S). Question 1, which in the original measuring instrument states, '*Tends to be quiet.*' and which was translated uniformly as 'A tendance à être calme.' by both translators, was translated back as '*Tends to be calm.'*. The two characteristics quiet and calm do not have exactly the same meaning. A discussion with the three translators revealed that the French translation '*A tendance à être calme.'* is actually closer to the English expression '*Tends to be calm.*'. The translators agreed that the French verb '*être silencieux*' is the more correct counterpart to the Englisch verb '*be quiet*'. The question has therefore been modified to '*A tendance à être silencieux.*'. As the verification has shown, this wording corresponds exactly to question number 21 as formulated in the French version of the 44-item questionnaire by Plaisant and colleagues (Plaisant et al., 2010).

A further discrepancy emerged in the retranslation of question 29 of this measuring instrument. The original question '*Is temperamental, gets emotional easily*', was backtranslated as '*Is temperamental, easily upset.'*. While the original question is formulated neutrally, the retranslated question has a clearly negative aspect. An in-depth discussion with the three translators led to the conclusion that in the two French translations '*Est capricieux(se), s'emporte facilement.'* respectively '*Est capricieux,*

s'emporte facilement.' the negative aspect is not clear. It was therefore decided to keep version '*Est capricieux, s'emporte facilement.'*. After these conflict resolutions, the French questionnaire was revised and finalised. The version resulting from this step was used in the pilot test.

All translators involved in the development of the questionnaire were bilingual professionals with translation experience. None of these people were involved in the research as participants or in any other way.

3.4.6 Pre-test of the questionnaire

After completion of the translation process, the German and French versions of the questionnaire were subjected to a comprehensive pre-test. The test procedure, the findings and the resulting adjustments to the research instrument are discussed in the following.

3.4.6.1 Aims and objectives of the pre-test

The main aim of the pre-test is to identify problems with translated versions, for example, in terms of question comprehensibility, and to identify other problems that might negatively affect equivalence and consequently comparability with the original instrument (Curtarelli & van Houten, 2018). The data collection method of questionnaire adopted for this research is therefore not suitable for the pre-test as it does not allow for interaction with the participant (Collins, 2003). Much more suitable are, for example, cognitive interviews, which have already been used in the pre-test of the SLQ (see section 3.4.4.3) (Collins, 2003; Neuman, 2014).

Furthermore, in order to allow for a representative test, it is important to select people for the pre-test who actually correspond to the target group (Beck et al., 2003). Based on the feedback from the participants, there may be a need for minor changes to the research instrument (Curtarelli & van Houten, 2018). However, if numerous items have led to comprehension or interpretation problems, the research instrument should be revisited by the translation team (Beck et al., 2003)

3.4.6.2 Pre-testing procedures and methods

In this dissertation, the translation of the research instrument is considered an iterative process (Forsyth et al., 2007). Accordingly, the pre-test phase comprised several iterations of testing, adaptation, and validation. In the first two rounds of testing, cognitive interviews were conducted, as already described in section 3.4.4.3. The third test round was conducted in the form of focus groups, one each for the German and French versions of the questionnaire. Focus groups are considered in

literature as a useful method for pre-field testing of questionnaires (Bischoping & Dykema, 1999; Brancato et al., 2006).

The complete pre-testing process is illustrated in figure 19.

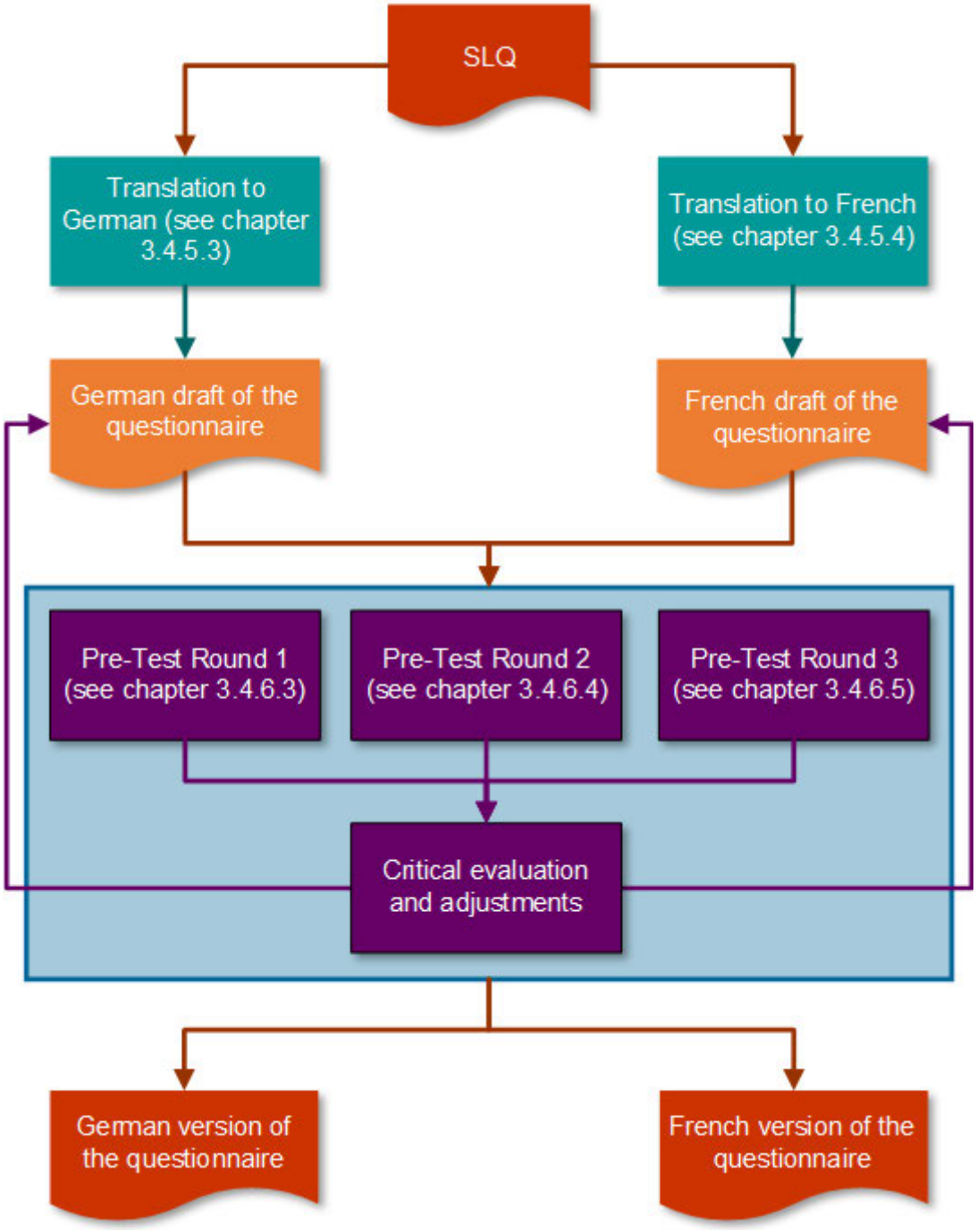


Figure 19: Pre-Testing process

3.4.6.3 Pre-test round 1

The cognitive interviews in the first round of the pre-test were conducted face-to-face with eight German-speaking and six French-speaking middle managers of Swiss Post who are managers at the head office and are native speakers of the respective language. The participants were not provided with any further information about the research beyond that available in the introductory text of the questionnaire, so that they were as unbiased as possible for the test.

The cognitive interviews revealed that the questionnaire was generally considered clear and understandable. Participants also stated that they felt sufficiently informed by the introduction and debriefing. Nobody found themselves unsettled. Only the term ambidexterity led to confusion. Despite the short explanation of the term in the introduction as well as in the debriefing section, the participants stated that they did not understand the meaning. For this reason, after consultation with the research director and the supervisor, it was decided to eliminate the term completely from the questionnaire and instead use the words efficiency and creativity.

In addition, some participants expressed difficulties in understanding the ambidexterity scale. Particularly question number 7 in the measuring instrument on individual ambidexterity led to discussions. Several participants in the pilot test suggested that the term '*existing company policy'* (or '*gegenwärtigen Firmenstrategien'* in the German version) would probably not be (uniformly) understood by all middle managers. As a solution to this problem, the term '*gegenwärtigen Firmenstrategien*' was replaced with '*gegenwärtigen Tätigkeiten der Firma*', which translates as 'current activities of the company'. In the opinion of the pilot testers, Swiss Post middle managers are well acquainted with the company's existing activities and services. This terminology should therefore be easier to understand, and the participants should be able to think of it in concrete terms. Consequently, the term 'existing company policy' or 'gegenwärtige Firmenstrategien' was also replaced by 'gegenwärtigen Tätigkeiten der Firma' in question number 14.

Another issue that has led to discussions was the question of the participant's functional area. Several participants in the pilot test were unsure whether all middle managers would be able to fit into the functional areas. As discussed in the description of the control variables in section 3.4.3.5, the list was therefore replaced by the overview of job functions from the Swiss Post public job portal.

With these adjustments, the two language versions of the questionnaire were subjected to a second pre-test round.

3.4.6.4 Pre-test round 2

Due to the Covid-19 situation arising during the pre-test phase, the cognitive interviews of the second test round needed to be conducted online via Skype. The interviews were conducted with six German-

speaking and six French-speaking middle managers of Swiss Post, who were again managers working at the headquarters and native speakers of the respective languages.

As the interviews revealed, all potential problems seemed to have been eliminated by the adjustments discussed. The only exception was the ambidexterity scale, which still caused confusion or uncertainty among several test participants. As discussed in section 3.4.3.1, which outlines the conceptualisation of the construct of the demand for ambidexterity in the context of the present research, the scale of Mom et al. (2009) was replaced by the scale of Weibler and Keller (2011) for this reason. Weibler and Keller's scale was already available in a German and English version, which had been validated in multiple studies (Keller, 2019; Keller & Weibler, 2014, 2015). The scale was translated into French following the procedure described in section 3.4.5.2.

The two language versions of the questionnaire were subjected to a third pre-test round, which was now conducted in the form of two focus groups.

3.4.6.5 Pre-test round 3

The third and final test round was conducted in the form of two focus groups. Due to the Covid 19 situation, these focus groups also had to be conducted online via Skype. One focus group was conducted with eight German-speaking test participants from the first two test rounds. A second focus group consisted of five French-speaking participants who had also already taken part in one of the first two test rounds. Within these focus groups, all findings identified in the previous test rounds and the resulting adjustments to the research instrument were discussed and critically reviewed once again.

In both focus groups, the discussions led to the conclusion that the comprehension problems had been successfully solved by exchanging the ambidexterity scale. Furthermore, the participants of both focus groups considered the items to be easy to understand and applicable to their work.

3.4.6.6 Conclusion from the pre-test and resulting measures

The drafts of the two language versions of the research instrument were tested in two rounds of cognitive interviews with a total of fourteen German-speaking and twelve French-speaking and two focus groups with eight German-speaking and five French-speaking target group members.

The cognitive interviews as well as the focus groups proved to be very helpful means to improve the quality of the research instrument. Several potential ambiguities could be eliminated during the pre-test. The participants of the final test rounds agreed that the revised language versions had gained significantly in clarity and comprehensibility compared to the initial versions.

The most significant adaptation within the pre-tests was the replacement of the ambidexterity scale with another pre-existing research instrument. Furthermore, the general job titles were used instead of the HR technical labels for the selection of the functional area. In addition, the term ambidexterity, which had proven incomprehensible to many participants, was eliminated. Table 7 summarises the scales used for the further validation of the German and French versions of the measurement instrument and the adjustments made in pre-test rounds 1 to 3.

Table 7: Overview of adjustments made in the pre-test rounds 1 to 3

Dimension	**Source measure**	**German measure**	**French measure**	**Adaptions**
Demand for Ambidexterity	Exploitation and exploration scale by Mom, Van Den Bosch and Volberda (2009)	Exploitation and exploration scale by Weibler and Keller (2011)	Own translation (see section 3.4.5)	The scale of Mom, Van Den Bosch and Volberda (2009) was replaced by the scale of Weibler and Keller (2011).
Personality	BFI-2-S scale by Soto and John (2017b)	Translated and validated version of the BFI-2-S scale by Rammstedt, Danner, Soto and John (Rammstedt et al., 2018)	Own translation (see section 3.4.5)	no adaptations
Employee well-being	Warr's scale of job-related affective well-being (1990)	Translated and validated version of Warr's scale of job-related affective well-being by Kovacs, Stiglbauer, Batinic and Gnambs (2018)	Own translation (see section 3.4.5)	no adaptations

Organisational Climate	14-item short version by Kivimäki and Elovainio (1999) based on the 44-item TCI by Anderson and West (N. Anderson & West, 1994).	Translated and validated TKI scale by Brodbeck, Anderson and West (2000) based on the 44-item version by Anderson and West (N. Anderson & West, 1994).	Own translation (see section 3.4.5)	no adaptations
Functional area				The list of functional areas from HR Controlling was replaced by the overview of job functions from Swiss Post's public job portal.
Introduction				The term ambidexterity was replaced by the terms efficiency and creativity.
Debrief				The term ambidexterity was replaced by the terms efficiency and creativity.

3.4.7 Questionnaire administration

According to Swiss Post's internal guidelines, the company's own survey tool must be used for employee surveys. Immediately before conducting the pilot test for this research, Swiss Post abandoned its old survey tool and rolled out a new system. This tool is a version of the widely used survey software Survalyzer (www.survalyzer.com) that has been specially adapted to the needs of Swiss Post. The tool not only offers features for designing and administrating surveys, but also provides support for the sampling process. All Swiss Post employees can be selected within the sampling module of Survalyzer via the organisational hierarchy and added to the sample. At Swiss Post, there is a research manager for each business unit. As soon as an employee from his or her

area has been selected in Survalyzer's sampling module, the corresponding research manager must approve the survey before the invitation to participate can be sent to the employee.

This is why, even before the pilot test was carried out, dialogue was sought with the research managers of all corporate departments. In the course of the discussions, the background and objectives of the research and the survey procedure were explained. An important part of the discussion was also to outline the measures taken to ensure the confidentiality of the data to be provided and the anonymity of the participants.

Survalyzer, the software used for the survey, allows the creation of anonymous surveys where participants can be explicitly invited, but their answers remain completely anonymous. The participant selected in the sampling component receives an e-mail with a link to the survey. When the participant clicks on the link and takes part in the survey, Survalyzer recognises him or her, but the information about the participant is not accessible even to administrators. Because Survalyzer recognises the user, it is later possible to send reminder e-mails to participants selected in the sampling process who have not yet completed the survey. Thereby the information about the people to whom the reminder e-mail is sent respectively the people who have not yet participated in the survey is only known to Survalyzer. The information is not visible to the researcher or the system administrators.

In accordance with Swiss Post guidelines, the survey was created in German and French with Survalyzer. Survalyzer recognises the mother tongue of all employees and displays them the survey in this language by default. However, the users have the possibility to change the language at any time. After the survey had been completely created and the design had been implemented according to the usability guidelines, the survey was reviewed by the main research manager of Swiss Post and finally approved for the pilot test.

3.4.8 Pilot testing

There is a broad consensus among social science researchers on the importance of pilot testing questionnaires prior to the final large-scale survey (Fowler, 2013; Neuman, 2014). In the words of Doody and Doody: *«A well-conducted pilot study with clear aims and objectives within a formal framework ensures methodological rigour, can lead to higher-quality research and scientifically valid work that is publishable»* (Doody & Doody, 2015, p. 1074).

However, there is no established standard on the exact procedure for pilot studies, the precise objectives and the methods to be applied (Presser et al., 2004). Thus, the term pilot study is sometimes used to refer to a so-called feasibility study, in other words a trial run of the large study, but sometimes also to a preliminary test of a specific research instrument (van Teijlingen, Edwin R. Hundley, 2001). In published survey reports, there is often little or no mention of whether, how and

with what results questionnaires have been pre-tested, and most textbooks offer minimal, if any, guidance on pilot testing. It seems therefore even more important that in the following the objectives, the procedure and the results of the pilot test are presented and discussed.

3.4.8.1 Aims and objectives of the pilot test

In the case of this project, the pilot study serves various purposes. A pilot test is necessary on the one hand to test the questionnaire, and on the other hand to check the acceptance by the employees (Collins, 2003). More specifically, it should be tested whether the questions are understood uniformly by employees from different work areas and with diverse backgrounds and native languages. Particularly as very personal information is requested from employees, it is also important to check whether they are willing to provide honest answers or whether the questions cause uncertainty.

As mentioned above, the new post-internal survey tool Survalyzer was introduced immediately before the pilot test. The pilot test described here was one of the first real surveys conducted using the tool. For this reason, the pilot test also served as a system test in the Survalyzer roll-out project.

Since the pilot test, in contrast to the pre-test, is conducted under the real conditions of the subsequent large-scale field study, it allows further to assess the feasibility of the large-scale study, to evaluate the likely success of the proposed sampling method, to identify logistical problems and, by obtaining preliminary data, to evaluate the proposed data analysis techniques (van Teijlingen, Edwin R. Hundley, 2001).

3.4.8.2 Pilot testing procedure

Literature suggests that pilot studies should test the whole administrative procedure by using the questionnaire in a representative extract of the sample of participants before the main study (De Vaus, 2013; Meadows, 2003) Following this advice, the same administrative procedure is used for the pilot test as for the later field study. Furthermore, Swiss Post's internal survey tool Survalyzer is used. The participants are selected via the tool's sampling component and invited to take part in the anonymous survey via an e-mail generated by Survalyzer.

The sample consists of the marketing and innovation departments of the PostMail Group unit of Swiss Post, which together comprise 195 middle managers. These two departments were chosen because the researcher is a member of the innovation department, and the marketing department includes the research managers and is responsible for the tool Survalyzer. Virtually all participants in these two departments know the researcher in person. It is therefore expected that, despite the anonymity of the survey, these participantswill be more likely to contact the researcher in case of uncertainties or if they have any comments on the survey.

The invitations for the survey were distributed via the survey tool Survalyzer. Each middle manager of the two departments thereby received an invitation e-mail with a personal link. However, Survalyzer ensures anonymity by not even making the information about the participant accessible to an administrator. Survalyzer keeps the participant's information for the only purpose of sending targeted reminders to those participants who have not yet taken part in the survey.

3.4.8.3 Results of the pilot test

Of the 195 invited middle managers, 99 fully completed the online questionnaire during the five-week pilot-test phase. This corresponds to a response rate of 51%. According to a report from the survey tool Survalyzer, 11% of the invited middle managers started to fill in the questionnaire but did not complete it. 37% of the participants did not even click on the link to the survey. It would have been particularly interesting to receive feedback from the 11% of middle managers who dropped out of the response process. The question arises whether they found the questionnaire too long or the topic not relevant or whether there were other reasons for stopping the process. Especially as the survey had been completely anonymous, this information could not be obtained.

The pilot test took place during the first Covid-19 lockdown. The researcher therefore had limited face-to-face contact with the participants during this time. Nevertheless, 14 of the participants who worked in the same department as the researcher gave some verbal feedback on the survey. They stated that they had found all questions comprehensible and the questionnaire clear and easy to use. Especially since they had been given promises of anonymity and confidentiality and the survey was carried out using Swiss Post's internal survey tool, they stated that they had had no concerns about providing personal information. Based on the feedback from these participants, it could be concluded that the length and design of the questionnaire was appropriate. It could further be assumed that the survey does not raise any relevant concerns about anonymity and confidentiality among participants.

An overview of the profiles of the pilot test participants can be found in table 44 in appendix J. The data set was screened for missing data, outliers and normality using IBM SPSS Statistics Version 25. Missing data are crucial since they can severely impair the representativeness of the study (Saunders et al., 2015). Especially if the missing data follow a certain pattern, for example, if they occur from certain groups of participants for certain variables, this can lead to biased results of the analysis (De Vaus, 2013). Swiss Post's internal online survey tool, Survalyzer, which was used for the pilot test, ensured, by means of appropriately configured rules, that all questions had to be answered completely before the respondents were able to submit their response. As a result, no missing entries were found in the data set of the pilot test.

The results of the data analysis can also be distorted by outliers, which is why it is also necessary to check for such cases that are extremely far from most other data points (De Vaus, 2013). According to recommendations in the literature, a graphical method was used in combination with an analytical method to identify potential univariate outliers (Tabachnick, Barbara G. Fidell, 2013; Van Den Broeck et al., 2005; Walfish, 2006). The boxplot method was chosen for graphical analysis. This is an established and reliable technique that makes no assumptions about the normal distribution of the data and is largely stable to the masking effect that can be caused by extreme values (M. Bakker & Wicherts, 2014; Kolbaşi & Ünsal, 2019). For analytical outlier identification, the z-scores of all variables were calculated and checked for values greater than 3.29 or less than -3.29 (Tabachnick, Barbara G. Fidell, 2013).

However, it is important to consider that the research instrument measures all variables with nominal and ordinal scales and that the survey software Survalyzer checked the entries for their formal correctness when they were filled in. Error outliers due to intentionally or carelessly entered incorrect data were thus not possible. So, if a participant selected an extreme answer at the upper or lower end of the Likert scale, this is quite possible and acceptable. While such values may be identified as outliers by univariate statistical tests, it would not be appropriate under the given circumstances to consider them as outliers per se. However, univariate outliers may indicate potential problems with careless responses. In the univariate analyses just discussed, no outliers were found. Multivariate outlier analysis was performed by calculating the Mahalanobis distances for all variables and comparing them with a chi-square distribution with the same degrees of freedom (Leys et al., 2018). Cases with a resulting p-value < .001 are considered potential outliers (Tabachnick, Barbara G. Fidell, 2013). No such cases were found within these analyses.

Next, data were tested for normality. As the most important indicators of normality, skewness (left-right symmetry of the distribution) and kurtosis (peakedness of the distribution) were assessed (Hair et al., 2013; Tabachnick, Barbara G. Fidell, 2013). Kline (2015) recommends that a skewness > 3 and a kurtosis > 10 should be considered problematic and a kurtosis > 20 should be regarded as a serious problem. West, Finch and Curran (1995) suggest skewness between -2.0 and 2.0 and kurtosis between -7.0 and 7.0 as indicators of univariate normality. Based on this guideline, slight non-normality was found in items 8 and 9 of the well-being scale as indicated in table 8. The two items displayed relatively high kurtosis values of 9.041 and 8.775. Item 8 (in English ‘gloomy’) and item 9 (in English ‘miserable’) together with item 7 (in English ‘depressed’) form the enthusiasm dimension of the well-being scale.

Table 8: Items of the well-being scale with significant skewness/kurtosis values

Descriptive Statistics

	N	Min.	Max.	Mean	Std. Dev.	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
German Version									
7. niedergeschlagen	86	1	5	1.79	.947	1.201	.260	1.014	1.514
8. depresssiv	86	1	5	1.33	.727	2.800	.260	9.041	1.514
9. elend	86	1	3	1.33	.369	2.958	.260	8.775	1.514
French Version									
7. déprimé(e)	13	1	3	1.69	.855	.705	.616	-1.240	1.191
8. morose	13	1	3	1.85	.801	.307	.616	-1.282	1.191
9. malheureux(se)	13	1	3	1.54	.776	1.114	.616	-.155	1.191

The results of the pilot test were critically reviewed and discussed with the translation team. Regarding items 8 and 9 of the well-being scale, the translation team came to the conclusion that the adjectives describing the feelings the job evoked in the participants may have been worded too extreme. After a comprehensive discussion, the translation team found that a too extreme adjective may have been chosen in the translation of item 7. In the normality test, the skewness and kurtosis values for item 7 were still within the recommended acceptable range but showed a slightly increased value with a kurtosis of 1.201. In order to mitigate problems regarding the equivalence of the different language versions, it was finally decided to supplement the research instrument with potential substitute items for the three items in question. The translation team agreed on three German and three French adjectives, which would come closer to the original meaning of items 7, 8 and 9. These were added as new items 13, 14 and 15 of the well-being scale in the German and French versions of the research instrument (see table 9). In the data analysis of the field test with the larger data set, it is to be tested by means of a confirmatory factor analysis (CFA) whether the substitute items achieve better values. If so, the initial items 7, 8 and 9 can be replaced with the newly introduced items 13, 14 and 15.

Table 9: Problematic and supplementary items of the well-being scale

Original	**Initial German**	**Substitute German**	**Initial French**	**Substitute French**
7. depressed	7. niedergeschlagen	13. bedrückt	7. déprimé(e)	13. démoralisé(e)
8. gloomy	8. depressiv	14. betrübt	8. morose	14. sombre
9. miserable	9. elend	15. unglücklich	9. malheureux(se)	15. misérable

3.4.9 Conclusion from the pilot test and resulting measures

The main objective of the pilot test was to verify the acceptance and uniform understanding of the questionnaire by the participants (Collins, 2003). Moreover, since the present research project involves a multilingual survey, verifying the equivalence of the different language versions was also an issue in the pilot test (Cha et al., 2007; Curtarelli & van Houten, 2018; Epstein et al., 2015; Guillemin et al., 1993). The translation of research instruments presents a challenge and requires special attention in the development, testing and application of the research instruments (Dhamani & Richter, 2011; Sousa & Rojjanasrirat, 2011). Accordingly, ensuring and checking the equivalence of the two language versions was already an important issue in the translation process and the pre-tests. Table 10 summarises the quality criteria and the procedures used to verify them.

Table 10: Quality assurance measures carried out in the development of the research instrument

Quality feature	Test stage	Test method
Content equivalence (see section 3.4.5.1)	Translation	Expert review (Dhamani & Richter, 2011)
	Translation	Back-translation (Dhamani & Richter, 2011)
Semantic equivalence (see section 3.4.5.1)	Translation	Expert review (Dhamani & Richter, 2011; Zun et al., 2019)
	Pilot test	Factor analyses (Mallinckrodt & Wang, 2004)
Technical equivalence (see section 3.4.5.1)	Pilot test	Questionnaire administration (Sousa & Rojjanasrirat, 2011)
Criterion equivalence (see section 3.4.5.1)	Pre-test	Cognitive interviews (Dhamani & Richter, 2011; Zun et al., 2019)
Conceptual equivalence (see section 3.4.5.1)	Translation	Back-translation (Zun et al., 2019)
	Pre-test	Cognitive interviews (Cha et al., 2007; Zun et al., 2019)
Face validity (see section 3.4.2.1)	Translation	Expert review (Arafat et al., 2016)
	Pre-test	Cognitive interviews (Arafat et al., 2016)
Content validity (see section 3.4.2.1)	Pre-test	Expert review (Souza et al., 2017)
	Pilot test	Content validity index (IVC) (Souza et al., 2017)
Criterion validity (see section 3.4.2.1)	Pilot test	Comparison with the gold standard instrument (the criterion measure) (Arafat et al., 2016)

Construct validity (see section 3.4.2.1)	Pilot test	Correlation tests (Souza et al., 2017)
Stability reliability (see section 3.4.2.2)	Pre-test	Test-retest method (Souza et al., 2017)
Representative reliability (see section 3.4.2.2)	Pre-test	Subpopulation analysis (Neuman, 2014)
Equivalence reliability (internal consistency) (see section 3.4.2.2)	Pilot test	Cronbach's alpha (Souza et al., 2017)
Anonymity and confidentiality (see section 3.4.2.3)	Pilot test and field test	Informed consent (Bryman, 2012; Creswell, 2013; Hallebone & Priest, 2008; Joffe et al., 2001)

The results from the statistical analyses of the pilot test data as well as the personal feedback from participants were in line with the quality criteria set for the research instrument as discussed in sections 3.4.2 and 3.4.5.1.

Overall, the research instrument as well as the research setting, in particular the recently introduced internal survey tool of Swiss Post, were found to be suitable for the field test. Table 11 provides an overview of the scales applied in the field test. The final research instruments in all language versions can be found in the appendix.

Table 11: Measurement instruments adopted

Dimension	Measure	Scale	Items	German Version	Cronbachs Alpha
Demand for Ambidexterity	exploration and exploitation scales (Weibler & Keller, 2011)	7-point scale (1=to a very small extent to 7= to a very large extent)	16	(Weibler & Keller, 2011)	exploration = .82; exploitation = .91 (Weibler & Keller, 2011)
Personality	BFI-2-S (Soto & John, 2017b)	5-point scale (1=Disagree strongly, 2=Disagree a little, 3=Neither agree nor disagree, 4=Agree a little, 5=Agree strongly)	30	(Danner et al., 2016)	English = .78; German = .73; (Danner et al., 2016; Soto & John, 2017b)
Employee well-being	Warr's scale of job-related affective well-being (Warr, 1990)	6-point scale (1=never, 2=occasionally, 3=some of the time, 4=much of the time, 5=most of the time, 6=all of the time)	12	(Kovacs et al., 2018)	English = .81/.79; German =.91 (Kovacs et al., 2018; Warr, 1990)
Organisational Climate	(Kivimäki & Elovainio, 1999)	5-point scale, anchored by 'strongly disagree' and 'strongly agree'	14	(Brodbeck et al., 2000)	English = .91; German = .86 (Brodbeck et al., 2000; Kivimäki & Elovainio, 1999)
Age		integer	1		
Gender		male, female, divers, prefer not to say	1		
Education	(FSO, 2020)		1		
Job title		*Optional question*	*1*		

		depending on education			
Functional area		Classification of job functions according to the public job portal of Swiss Post	1		
Tenure in company		less than 1 year, 1 to 3 years, 4 to 9 years, 10 to 29 years, 30 years and more	1		
Tenure in current function		less than 1 year, 1 to 3 years, 4 to 9 years, 10 to 29 years, 30 years and more	1		
Management responsibilitie	(Keller & Weibler, 2011)	Boolean	1		
Total items			**79** ***(80)***		

3.5 Ethical considerations

This chapter discusses the ethical considerations that are made in the present research.
The chapter starts with a discussion of the main principles of research ethics. It then discusses the measures taken to protect research participants. This is followed by an outline of the measures taken to protect the research site. This is followed by a discussion of the protection of research data. The chapter concludes with a discussion of the measures taken to protect the research community.

Ethical considerations are a major concern at all stages of the present research. In this research, data is collected from people about people, which makes it essential to build trust with research participants, to adequately protect them and their organisation, and to ensure the integrity of the research (Creswell & Creswell, 2018). Easterby-Smith, Thorpe, Jackson and Jaspersen (2015) have summarised the most important ethical principles of research, adapted from Bell and Bryman (2007), as presented in table 12. As can be seen from their summary, the protection of research participants, including ensuring their informed consent, he protection of the research site, the protection of research data, and the protection of the research community through honest and transparent reporting in particular are among the most important ethical principles that must be respected.

Table 12: Key principles in research ethics. Source: (Easterby-Smith et al., 2015, p. 122)

1	Ensuring that **no harm** comes to participants.	*Protection of research participants*
2	Respecting the **dignity** of research participants.	
3	Ensuring a fully **informed** consent of research participants.	
4	Protecting the **privacy** of research participants.	
5	Ensuring the **confidentiality** of research data.	
6	Protecting the **anonymity** of individuals or organizations.	
7	**Avoiding** deception about the nature or aims of the research.	*Protection of integrity of research community*
8	Declaration of affiliations, funding sources and **conflicts** of interest.	
9	Honesty and **transparency** in communicating about the research.	
10	Avoidance of any **misleading** or false reporting of research findings.	

In addition to these general ethical principles of research discussed in literature, the University of Gloucestershire's Handbook of Research Ethics Principles and Procedures (*Research Ethics: A Handbook of Principles and Procedures*, 2021) as well as Swiss Post's internal research guidelines serve as important guidelines. As suggested by Saunders, Lewis and Thornhill (2015), ethical issues are considered at all stages of the present research, which are in particular the formulation of the research proposal, the development of the research design, data collection, data processing and storing, as well as data analysis and reporting of the findings. The key measures taken in this research to ensure compliance with the ethical research principles are summarised in the following. Further discussion is provided in the sections on the respective aspects of the research.

3.5.1 Protection of the research participants

Already when formulating the research question, care was taken to ensure adherence to the fundamental ethical principles and, in particular, to ensure the protection of the participants at any time. As the research idea was being developed, it became clear that highly sensitive personal data such as individual well-being or personality traits would have to be collected. For ethical reasons, it was decided to collect the subjective evaluations of these attributes from the person under study and not to collect objective evaluations from observers such as supervisors or peers. The decision to

collect all data from the individual was a prerequisite for the choice of an anonymous online survey as the data collection method.

Confidentiality of data and anonymity of participants is a central ethical concern in online surveys (Saunders et al., 2015). In the present research, these issues are among others addressed by the use of the internal survey tool Survalyzer of Swiss Post. With the use of Survalyzer, it is possible to select participants in a targeted manner, but to allow them to take part in the survey completely anonymously. As with all online surveys, obtaining informed consent is another important task (Easterby-Smith et al., 2018; Saunders et al., 2015). To this end, participants are provided with information on the background, scope, and purpose of the survey in the introduction of the questionnaire (see appendix). Furthermore, they are advised for any questions to contact the researcher or in case of concerns to contact the research manager of the university or the research officer of the relevant division of Swiss Post.

With regard to reporting, care is taken to ensure that the information does not allow any conclusions to be drawn about individual participants. Furthermore, it is ensured that the data is only used for the purpose communicated to the participants and the research site.

3.5.2 Protection of the research site

Of course, the protection of Swiss Post as the research site is also an important concern in this research. As one of the top employers in Switzerland, Swiss Post attaches great importance to the protection of its employees and its reputation. For this reason, an application to the internal research commission of Swiss Post was necessary for the present research. Ensuring compliance with ethical guidelines is an important responsibility of this commission. All measures for protecting employees and data were discussed with this commission for approval. Moreover, the survey tool Survalyzer is set up in such a way that when employees are surveyed, a notification is sent to the responsible department head, who must approve the survey.

3.5.3 Protection of the research data

The use of the survey tool Survalyzer ensures that the data is stored securely and protected from unauthorised access. The tool is hosted by Swiss Post's IT department on its own IT infrastructure and is subject to the high security standards defined by the organisation. Also, when analysing the data, care is taken to ensure that it remains protected from unauthorised access. This is achieved by granting access rights in Survalyzer in such a way that only the researcher is authorised to download the response data. The researcher in turn ensures that the data remains local to her computer. A

backup protected from access is automatically created by Survalyzer, so that the researcher does not need to save the data on a different storage medium.

3.5.4 Protection of the research community

In order to protect the research community, care is taken in presenting the theoretical basis as well as in reporting the research results so that they are not open to misinterpretation. This is achieved by presenting the research proposal as well as the completed research at several conferences and colloquia, recognising feedback from peers. The research results are presented honestly and transparently, without jeopardising the protection of the participants or the confidentiality of the data.

4. Data Analysis

The following chapter discusses the data analysis techniques applied for the investigation of the data from the field test and their results. First, the response rates and demographic characteristics of the participants are presented. Next, the data preparation and cleaning strategy is outlined. This is followed by a discussion of the validity and reliability of the measurement instruments. Finally, the analyses conducted to investigate the research question are discussed. This entails in particular hypothesis testing by means of structural equation modelling (SEM).

4.1 Response rates and participant profiles

A total of 3,454 middle managers of the executive units PostMail, PostalNetwork, PostLogistics and the support division (consisting of the e Finance, Human Resources, Communication, Development & Innovation, Corporate Accounts, Real Estate, Informatics, Group Audit, Strategy & Transformation, Governance, Risk Management, Compliance, Security (GRCS), Legal and Regulatory Affairs units) were invited to participate in the survey by e-mail via the survey platform Survalyzer. As explained in the sampling discussion, these individuals are middle managers in an administrative role at one of Swiss Post's management headquarters.1,658 of the invited middle managers fully completed the online survey. This corresponds to a response rate of 48.0%.

According to the survey statistics provided by Survalyzer, 549 of the invitees (15.9%) started filling out the survey but did not complete it in full. Unfortunately, Survalyzer does not provide more precise information on the time of dropout. Thus, it must be assumed that some of the invitees merely opened the survey and did not start filling it out at all, for example because they were not interested in the topic. Other of the invitees may have started to complete the survey but then dropped out after a few questions because they did not want to invest any more time. 1,247 of the invitees (36.1%) completely ignored the invitation e-mail and did not even open the survey.

Participant profiles are shown in table 13. The data refers to the situation before data cleansing.

Table 13: Participant profiles (before data cleansing)

Descriptive statistics

	Total		**German**		**French**	
	Frequency	*Percent*	*Frequency*	*Percent*	*Frequency*	*Percent*
Language	*n=1658*	*100.0*				
German	1468	88.5				
French	190	11.5				
Gender	*n=1658*	*100.0*	*n=1468*	*100.0*	*n=190*	*100.0*
male	971	58.5	869	59.1	102	53.6
female	670	40.4	584	39.8	86	45.3
divers	1	0.1	1	0.1	0	0.0
prefer not to say	16	1.0	14	1.0	2	1.1

Age	*n=1658*	*100.0*	*n=1468*	*100.0*	*n=190*	*100.0*
-24	66	4.0	64	4.4	2	1.1
25 - 29	145	8.7	131	8.9	14	7.4
30 - 39	369	22.3	340	23.2	29	15.3
40 - 49	457	27.6	400	27.2	57	30.0
50 - 59	523	31.5	451	30.7	72	37.9
60+	98	5.9	82	5.6	16	8.4
Educational qualification	*n=1658*	*100.0*	*n=1468*	*100.0*	*n=190*	*100.0*
Compulsory education without completed vocational education and training (VET)	56	3.4	50	3.4	6	3.2
Exclusively in-house vocational training not recognised by the State Secretariat for Education, Research, and Innovation SERI	28	1.7	21	1.4	7	3.7
Vocational education and training (VET) which leads to the award of a Federal VET Diploma or a Federal VET certificate, full-time vocational school, secondary specialised school or equivalent	449	27.1	399	27.2	50	26.3
Baccalaureate, federal vocational baccalaureate, specialised baccalaureate or equivalent	112	6.8	86	5.9	26	13.7
Teacher's certificate at various levels: Primary teacher training (for teaching at kindergarten, primary school, needlework and handicrafts, cooking) or equivalent	4	0.2	3	0.2	1	0.5
Federal PET diploma, Advanced federal PET diploma, College of professional education and training degree or equivalent	489	29.5	431	29.4	58	30.5
University of applied sciences (UAS), University of teacher education (UTE) or equivalent	251	15.1	233	15.8	18	9.5
University or institute of technology (UIT)	269	16.2	245	16.7	24	12.6
Academic title	*N=520*	*31.3*	*n=478*	*32.5*	*n=42*	*22.1*
Bachelor	123	7.4	109	7.4	14	7.4
Master	376	22.6	349	23.7	27	14.2
Doctorate	21	1.3	20	1.4	1	0.5
Functional area	*n=1658*	*100.0*	*n=1468*	*100.0*	*n=190*	*100.0*
Assistance functions / Administration	70	4.2	62	4.3	8	4.2
Procurement	30	1.8	29	2.0	1	0.5
Finance / Controlling	254	15.3	229	15.6	25	13.2
Business management / development	33	2.0	32	2.2	1	0.5
Information technology	164	9.9	156	10.6	8	4.2
Infrastructure / Security / Real estate	51	3.1	46	3.1	5	2.6
Logistics / Production	226	13.6	206	14.0	20	10.5
Marketing / Communication	151	9.1	139	9.5	12	6.3
Project / Process management	131	7.9	116	7.9	15	7.9
Human Resources	191	11.5	158	10.8	33	17.4
Customer advice	157	9.5	124	8.4	33	17.4
Transport	30	1.8	25	1.7	5	2.7
Legal / Compliance / Governance	7	0.4	3	0.2	4	2.1
Sales	163	9.9	143	9.7	20	10.5
Tenure in company	*n=1658*	*100.0*	*n=1468*	*100.0*	*n=190*	*100.0*
less than 1 year	98	5.9	93	6.3	5	2.6
1 to 3 years	298	18.0	269	18.3	29	15.3
4 to 9 years	411	24.8	380	25.9	31	16.3
10 to 29 years	507	30.6	443	30.2	64	33.7
30 years and more	344	20.7	283	19.3	61	32.1
Tenure on job	*n=1658*	*100.0*	*n=1468*	*100.0*	*n=190*	*100.0*

less than 1 year	236	14.2	223	15.2	13	6.8
1 to 3 years	618	37.2	562	38.3	56	29.5
4 to 9 years	439	26.5	394	26.8	45	23.7
10 to 29 years	354	21.4	282	19.2	72	37.9
30 years and more	11	0.7	7	0.5	4	2.1
Line manager	*n=1658*	*100.0*	*n=1468*	*100.0*	*n=190*	*100.0*
yes	313	18.9	286	19.5	27	14.2
no	1345	81.1	1182	80.5	163	85.8

4.2 Non-response bias

Response bias refers to the effect that non-respondents' answers would have on the outcome of the survey (Creswell, 2013). If the participants differ significantly from the non-respondents, it would not be possible to deduce from the survey results how the entire sample would have responded, which would make it impossible to generalise the sample to the population (Armstrong & Overton, 1977). Therefore, checking for response bias is an important issue.

In the present research, testing for response bias was carried out by the method of comparison with known values for the population as described by Armstrong and Overton (Armstrong & Overton, 1977). For this purpose, statistics from the personnel information system were compiled by the HR controlling department of Swiss Post on the 3,454 middle managers surveyed. The statistics were completely anonymised. It was not possible to make inferences about individuals on the basis of the data. As indicated in table 14, there is a close match between the demographic data of the middle managers surveyed and that of the respondents. A small discrepancy exists with regard to gender, as the personnel information system only records the biological gender, whereas the additional options of ‘diverse’ and ‘prefer not to say’ were available in the questionnaire. Furthermore, the personnel information system only contains data on tenure in the company and not on tenure in the job. Since there were no significant differences in the other demographic data between the middle managers surveyed and the respondents, the lack of data on tenure in the job does not affect the test for response bias.

In summary, the test results indicate that the results of the present research are not contaminated by response bias.

Table 14: Demographic data of the sample in comparison with that of the respondents

	Sample		**Respondents**	
	Frequency	*Percent*	*Frequency*	*Percent*
Language	*n=3454*	*100.0*	*n=1658*	*100.0*
German	2937	85.0	1468	88.5
French	517	15.0	190	11.5
Gender	*n=3454*	*100.0*	*n=1658*	*100.0*

male	1850	53.6	971	58.5
female	1604	46.4	670	40.4
divers	0	0.0	1	0.1
prefer not to say	0	0.0	16	1.0
Age	*n=3454*	*100.0*	*n=1658*	*100.0*
-24	144	4.2	66	4.0
25 - 29	281	8.1	145	8.7
30 - 39	809	23.4	369	22.3
40 - 49	919	26.6	457	27.6
50 - 59	1046	30.3	523	31.5
60+	255	7.4	98	5.9
Educational qualification	*n=3454*	*100.0*	*n=1658*	*100.0*
Compulsory education without completed vocational education and training (VET)	201	5.8	56	3.4
Exclusively in-house vocational training not recognised by the State Secretariat for Education, Research, and Innovation SERI	166	4.8	28	1.7
Vocational education and training (VET) which leads to the award of a Federal VET Diploma or a Federal VET certificate, full-time vocational school, secondary specialised school or equivalent	939	27.2	449	27.1
Baccalaureate, federal vocational baccalaureate, specialised baccalaureate or equivalent	176	5.1	112	6.8
Teacher's certificate at various levels: Primary teacher training (for teaching at kindergarten, primary school, needlework and handicrafts, cooking) or equivalent	22	0.6	4	0.2
Federal PET diploma, Advanced federal PET diploma, College of professional education and training degree or equivalent	1001	29.0	489	29.5
University of applied sciences (UAS), University of teacher education (UTE) or equivalent	487	14.1	251	15.1
University or institute of technology (UIT)	462	13.4	269	16.2
Academic title	*N=949*		*N=520*	*31.3*
Bachelor	249	7.2	123	7.4
Master	653	18.9	376	22.6
Doctorate	47	1.4	21	1.3
Functional area	*n=3454*	*100.0*	*n=1658*	*100.0*
Assistance functions / Administration	132	3.8	70	4.2
Procurement	66	1.9	30	1.8
Finance / Controlling	454	13.1	254	15.3
Business management / development	88	2.5	33	2.0
Information technology	298	8.6	164	9.9
Infrastructure / Security / Real estate	96	2.8	51	3.1
Logistics / Production	508	14.7	226	13.6
Marketing / Communication	229	6.6	151	9.1
Project / Process management	305	8.8	131	7.9
Human Resources	513	14.9	191	11.5
Customer advice	369	10.7	157	9.5
Transport	66	1.9	30	1.8
Legal / Compliance / Governance	12	0.3	7	0.4
Sales	318	9.2	163	9.9
Tenure in company	*n=3454*	*100.0*	*n=1658*	*100.0*
less than 1 year	237	6.9	98	5.9
1 to 3 years	627	18.2	298	18.0

4 to 9 years	743	21.5	411	24.8
10 to 29 years	1115	32.3	507	30.6
30 years and more	732	21.2	344	20.7
Line manager	*n=3454*	*100.0*	*n=1658*	*100.0*
yes	533	15.4	313	18.9
no	2921	84.6	1345	81.1

4.3 Data preparation and screening

Data screening and preparation are important steps prior to the main data analysis in order to ensure the integrity of the test results (Tabachnick, Barbara G. Fidell, 2013). Errors committed during questionnaire completion can distort test results and thus in the worst case lead to wrong conclusions from the research (Martin & Bridgmon, 2012; Raykov & Marcoulides, 2008). To ensure the quality of research, it is therefore essential to carefully examine the data before performing any statistical tests (Tabachnick, Barbara G. Fidell, 2013).

In the present research, the data were first examined for missing values and outliers. Since more sophisticated methods such as factor analysis and structural equation modelling were intended for further data analysis, the data were also examined for their fit with the multivariate assumptions. The most important multivariate assumptions are normality, linearity and homoscedasticity (Hair et al., 2013). Important assumptions for many multivariate analyses are also the absence of multicollinearity and singularity (Tabachnick, Barbara G. Fidell, 2013). Therefore, the data were further analysed for these undesirable characteristics. The analyses and the results of these preliminary investigations are described in the following sections.

Finally, the data were prepared for further analysis. Reverse-coded items were recoded. For the control variables gender, education, job function and hierarchical level, which were measured on nominal and ordinal scales and thus cannot be included directly in regression analyses, dummy variables were created. Scales were constructed from the mean of the associated items.

4.3.1 Missing data

As already described in the section on the pilot test, Survalyzer was configured in such a way that only fully completed questionnaires could be submitted. Likewise, rules and corresponding plausibility checks at the level of the individual questions ensured that each question was answered completely and formally correctly. This is why, as expected, no missing values were found within the data inspections.

4.3.2 Outliers

Extreme values that lie outside the distribution are referred to as outliers (Parke, 2015). A case may contain only one such extreme value (univariate outlier) or extreme values may be present on several variables of the case (multivariate outlier) (Tabachnick, Barbara G. Fidell, 2013). Outliers affect the mean, standard deviation and correlation coefficient values and can lead to skewed data (Aguinis et al., 2013; McDonald & Ho, 2002; Schumacker & Lomax, 2004). This is why statistical inference tests are sensitive to outliers (Parke, 2015). It is therefore important to systematically check for univariate and multivariate outliers and to explain, delete or accommodate these extreme values (Schumacker & Lomax, 2004).

Since the questionnaire designed for the survey measured all variables with nominal and ordinal scales and the survey software Survalyzer had checked the entries for their formal correctness during completion, error outliers due to intentionally or carelessly entered incorrect data were not possible. It is acceptable for participants to rate conditions or perceptions as extreme and therefore provide ratings at the upper or lower end of a Likert scale. While such values may be identified as outliers by univariate statistical tests, it would not be appropriate to consider them as outliers per se under the given circumstances. An indication of possible problems in the sense of careless answers only becomes apparent through multivariate analysis, in other words when there are extreme values in multiple scales. For that reason, univariate outliers were generally not relevant in this research. However, since accumulated extreme values for a particular variable could provide valuable indications of previously unrecognised underlying phenomena and thus new theories (Gibbert et al., 2021), all variables were controlled for univariate outliers. Special attention was paid to the variable of age. As the only exception, no scale was applied to measure the participant's age, but it had to be manually entered as a numerical value. Survalyzer had only checked that a two-digit positive number had been entered. Thus, theoretically, ages from 10 to 99 years could be entered.

In accordance with the recommendations in literature, a graphical method in combination with an analytical method was applied to identify potential univariate outliers (Tabachnick, Barbara G. Fidell, 2013; Van Den Broeck et al., 2005; Walfish, 2006). The boxplot method was chosen as the graphical instrument. The reason for selecting this instrument is that the boxplot method is an established and reliable technique that does not make any assumption about normal data distribution and is largely stable against the masking effect, which can be caused by extreme values (M. Bakker & Wicherts, 2014; Kolbaşi & Ünsal, 2019). For analytical outlier identification, the z-scores of the variables were calculated and checked for values greater than 3.29 or smaller than -3.29, which are declared as univariate outliers according to the guideline of Tabachnick and Fidell (2013).

As the boxplot of the age variable revealed (see figure 20), one participant had stated that he was 82 years old. Considering that the retirement age in Switzerland is 65, this value was interpreted as a potential error outlier. Consultation with Swiss Post's Human Resources Controlling revealed that the

oldest employee was 67 years old. Since the anonymity of the survey made it impossible to identify the participant and thus the correct age, the data record was excluded.

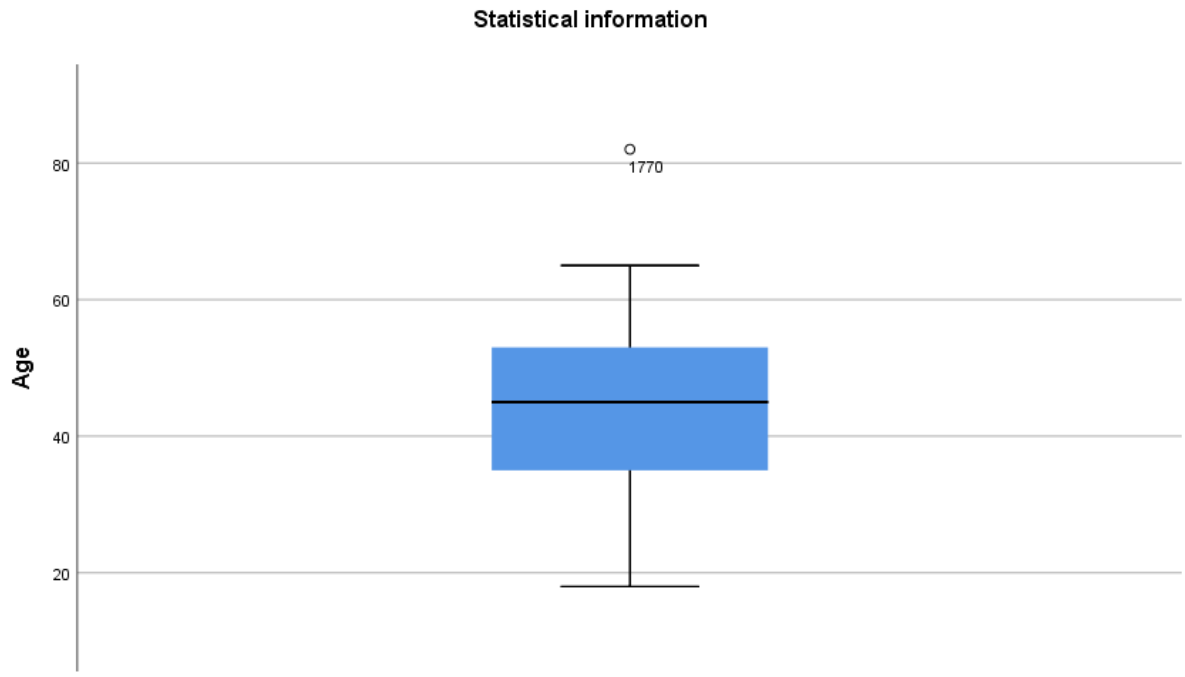


Figure 20: Boxplot representing the error outlier of Age = 82

The boxplots of the other variables were consistently normal and showed a maximum of 18 outliers, which corresponds to less than 1.1 % of the 1,658 cases. Such a proportion of extreme values at the lower or upper end of the Likert scale is absolutely legitimate (Burke, 1998).

The examination of the z-values did not reveal any abnormalities either. For the vast majority of variables, there were less than 15 significant z-scores (caused by answers at the upper or lower end of the Likert scale) outside the range of 3.29 and -3.29 (Tabachnick, Barbara G. Fidell, 2013). For one variable of the well-being scale, 40 z-scores greater than 3.29 were identified. These were cases who had rated the question of how often their job had made them feel miserable in recent weeks with 6=always or 5=most of the time. These cases were identified as outliers because the vast majority of participants had indicated that they experienced such a feeling much less often. The extreme values represent less than 2.5% of the cases, which can be regarded as absolutely legitimate and not requiring any further action (Burke, 1998).

To identify multivariate outliers, the Mahalanobis distances were calculated and compared with a chi-square distribution with the same degrees of freedom (Leys et al., 2018). All cases with a resulting p-value < .001 were suspected to be outliers (Tabachnick, Barbara G. Fidell, 2013). 95 cases were identified as potential outliers in this way. These cases were manually examined for unusual response patterns, such as choosing the same grade on the Likert scale for several consecutive items. Such

response patterns could indicate so-called inattentive or careless responses, which result when the participant chooses random answers without considering the item content (Meade & Craig, 2012). Such responses would falsify the subsequent statistical tests and thus negatively affect the reliability of the research (Maniaci & Rogge, 2014). As it turned out, none of the cases contained such unusual response patterns. It was found that the respective participants had answered several questions in one or more dimensions of scales at the upper or lower end of the Likert scales and had therefore been identified as outliers. However, such observations are part of the data distribution and are therefore not to be considered as outliers (Hadi, 1992). The cases were therefore kept as they were.

4.3.3 Normality

The most fundamental assumption of a large number of statistical tests, and especially of multivariate data analysis, is that of normal distribution (Hair et al., 2013). This is why testing the variables for normality is an important step during the data screening phase (Tabachnick, Barbara G. Fidell, 2013). A rough overview of the data distribution was already provided by the boxplots, which had been created for all variables to check for outliers. A rough overview of the data distribution was already provided by the box plots, which had been created for all variables to check for outliers. However, it is recommended to further assess normality with a statistical method, which is more accurate and provides a better overview (Kline, 2015). Two important factors of normality and thus reliable indicators of normal distribution are skewness (left-right symmetry of the distribution) and kurtosis (peakedness of the distribution) (Hair et al., 2013). In this research, statistical analysis of normality was carried out by the well-established method of assessing skewness and kurtosis (Tabachnick, Barbara G. Fidell, 2013).

Kline (2015) suggests that a skewness > 3 and a kurtosis > 10 should be considered problematic while a kurtosis > 20 would be regarded as a severe problem. As shown in table 15, no values were found for any variable that were even close to this critical range, with the exception of the variable DepressionInitial. These are the three items that had already shown significant skewness and kurtosis values in the pilot test and were therefore replaced by three items that are shown in the table as Depression (see section 3.4.8.3). As the confirmatory factor analysis (CFA) which will be discussed later (see section 4.6.1) revealed, also a higher reliability and validity was achieved with the substitute items. Based on these results, it was decided to include the variable Depression for the following analyses. The data of all other variables can be regarded as normally distributed.

Table 15: Results of the tests for normality

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Exploitation	1657	4.7324	.92804	-.169	.060	-.331	.120
Exploration	1657	3.8761	1.01484	-.049	.060	-.351	.120
Extraversion	1657	3.4482	.58084	-.081	.060	-.173	.120
Agreeableness	1657	4.0913	.49481	-.496	.060	.230	.120
Conscientiousness	1657	4.0789	.55527	-.503	.060	.095	.120
NegativeEmotion	1657	2.1762	.61684	.481	.060	.128	.120
OpenMindedness	1657	3.6082	.64176	-.089	.060	-.276	.120
Vision	1657	3.9668	.61719	-.869	.060	1.752	.120
TaskOrientation	1657	3.5142	.74487	-.465	.060	.364	.120
ParticipativeSafety	1657	4.0382	.73115	-.863	.060	.869	.120
Support4Inno	1657	3.5802	.84431	-.382	.060	-.046	.120
Anxiety	1657	4.3919	.90088	-.649	.060	.617	.120
Comfort	1657	3.8996	.98311	-.263	.060	-.567	.120
Depression	1657	5.1971	.85795	-1.678	.060	3.472	.120
DepressionInitial	1657	5.4263	.76583	-2.227	.060	6.246	.120
Enthusiasm	1657	3.9632	1.01269	-.227	.060	-.500	.120
Valid N (listwise)	1657						

4.3.4 Linearity

Another fundamental assumption of many statistical tests is that of linearity, which refers to a straight-line relationship between the dependent and independent variables (Tabachnick, Barbara G. Fidell, 2013). Curvilinear data can reduce the magnitude of the Pearson correlation coefficient or even result in no correlation being detected at all (Schumacker & Lomax, 2004). Therefore, it is important to ensure linearity between dependent and independent variables before conducting analyses based on correlational measures of association, such as multiple regression, factor analysis or structural equation modelling (Tabachnick, Barbara G. Fidell, 2013). The most common method for detecting non-linearity is to examine the pairs of variables graphically with scatter plots (Hair et al., 2013).

In line with the suggestions in literature, in the present research the linearity assumption was examined with bivariate scatter plots (see Appendix D). Thereby, no significant deviations from linearity were found.

4.3.5 Homoscedasticity

Further, the assumption of homoscedasticity, the existence of approximately equal variances of the values between two variables(Tabachnick, Barbara G. Fidell, 2013), was investigated. Homoscedasticity is desirable because the variance of the dependent variable should be distributed over the entire value range of the independent variable for the dependence relationship to be fully captured (Hair et al., 2013). Heteroskedasticity, the absence of homoscedasticity, is not fatal for ungrouped data analysis, but predictability is better when heteroscedasticity is present (Tabachnick, Barbara G. Fidell, 2013).

The most common method for examining variables for homoscedasticity are bivariate scatter plots (Hair et al., 2013). In the presence of homoscedasticity, the scatter plots between two variables are approximately the same width all over with some convexity towards the centre (Tabachnick, Barbara G. Fidell, 2013). The scatter plots generated for all variables (see Appendix E) all showed the characteristics of homoscedasticity.

4.3.6 Multicollinearity and singularity

Finally, the data were examined for multicollinearity (a high degree of similarity between the measured variables) and singularity (complete equality of the measured variables) (Tabachnick, Barbara G. Fidell, 2013). Multicollinearity and even more so singularity are highly undesirable because methods that analyse correlations between different variables, such as structural equation modelling, can then not perform their statistical calculations properly (Weston & Gore, 2006). In addition, multicollinearity and singularity falsify the correlation matrix in the sense that because of the redundant information, more variables are represented than were effectively measured (Tabachnick, Barbara G. Fidell, 2013).

Assessing the data for multicollinearity and singularity was of secondary importance in the screening phase of the present research since factor analyses and structural equation modelling were intended as part of the further analysis. Such analyses of structure have mechanisms incorporated which protect against multicollinearity and singularity (Tabachnick, Barbara G. Fidell, 2013). However, for completeness and in order to be able to make a final statement about the data quality at the end of the screening phase, a check for multicollinearity and singularity was carried out by means of a bivariate correlation matrix at a significance level of .01 (2-tailed). As a rule of thumb, it is recommended to consider bivariate correlations higher than r = .85 as potential problems (Weston & Gore, 2006). As the correlation matrix presented in table 16 demonstrates, all values were noticeably below this threshold.

Table 16: Correlation matrix

Correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Exploitation	1														
2. Exploration	-.494**	1													
3. Extraversion	-.112**	.099**	1												
4. Agreeableness	.127**	-.071**	.145**	1											
5. Conscientiousness	.192**	-.120**	.221**	.297**	1										
6. Negative Emotion	-.077**	.059*	-.284**	-.307**	-.310**	1									
7. Open Mindedness	-.086**	.190**	.287**	.141**	.081**	-.224**	1								
8. Vision	.130**	-.053*	.124**	.160**	.158**	-.221**	.047	1							
9. Task Orientation	-.018	.119**	.105**	.168**	.085**	-.150**	.063**	.507**	1						
10. Participative Safety	.091**	-.026	.100**	.197**	.103**	-.209**	.036	.551**	.594**	1					
11. Support for Innovation	.049*	.078**	.117**	.145**	.103**	-.213**	.062*	.485**	.620**	.677**	1				
12. Anxiety	.146**	-.207**	.131**	.148**	.151**	-.464**	.071**	.312**	.157**	.249**	.243**	1			
13. Comfort	.203**	-.119**	.144**	.198**	.147**	-.480**	.038	.360**	.213**	.301**	.310**	.678**	1		
14. Depression	.073**	-.097**	.180**	.166**	.156**	-.449**	.100**	.376**	.231**	.303**	.299**	.664**	.559**	1	
15. Enthusiasm	.070**	.064**	.351**	.246**	.213**	-.452**	.175**	.401**	.324**	.335**	.391**	.502**	.657**	.542**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

4.4 Reliability and Validity of the Measurement Instrument

Having verified the quality of the data in the previous steps, the aim is now to assess the reliability and validity of the measurement instruments. As already discussed in section 3.4.2, the various aspects of reliability and validity are central concerns in research and should therefore be achieved in every statistical investigation (Neuman, 2014). All scales applied in the present research were assessed regarding their validity and reliability by means of adequate statistical analyses. The approaches and results from these analyses are discussed in the following sections.

4.4.1 Reliability

Reliability refers to the consistency of a measurement instrument and is also another indicator of convergent validity (Hair et al., 2013). The most commonly applied reliability coefficient in social research is coefficient alpha, also known as Cronbach's alpha, which measures internal consistency reliability (Kline, 2015). The alpha coefficient value is expressed as a fraction between 1.00 (indicating perfect internal reliability) and .00 (indicating no internal reliability) (Bryman, 2012). A minimum value of .70 is generally considered satisfactory evidence of reliability (Hair et al., 2013).

Cronbach's alpha values were calculated for all scales employed in the present research with the software IBM SPSS Statistics version 25. The results are presented in Table 17. Except for three personality scales all scales showed Cronbach's alpha values between .765 and .884 indicating high reliability. The three personality scales Extraversion, Agreeableness and Open-mindedness showed low reliability with Cronbach's alpha values of .673, .634 and .631, respectively. However, these scores are in line with those obtained in previous research (Florczak et al., 2020; Palsson et al., 2020; Rammstedt et al., 2018). Personality researchers have repeatedly pointed out that the widely used Cronbach's alpha coefficient tends to underestimate the reliability of personality scales (McCrae et al., 2011; Rammstedt et al., 2018). This may be due not least to the fact that the five-factor model of personality (FFM) requires five scales, which for practical reasons obviously have to be limited to a relatively small number of items. It is generally known that Cronbach's alpha is lower with a smaller number of items (Hair et al., 2013; MacKenzie et al., 2011).

4.4.2 Face and content validity

The two most basic types of validity are face validity and content validity (Neuman, 2014). A measurement instrument is considered to have face validity if it apparently measures what the scientific community expects it to measure (Sarantakos, 2012). To achieve content validity, a measurement instrument must measure all aspects that the scientific community attributes to the concept (Saunders et al., 2015). Face validity as well as content validity are not statistically

measurable, but are evaluated for example by interviewing experts or individuals concerned (Bryman, 2012).

In the course of this research, face and content validity have been verified repeatedly, ranging from a critical literature review to discussions with experts and cognitive interviews with subjects under investigation. The aim of the literature review was to capture all aspects and the current, general understanding of the phenomena to be studied. Based on this theoretical foundation, existing measurement instruments for all constructs were identified. In selecting the measurement instruments, care was taken to ensure that they had been sufficiently assessed for validity and reliability in previous research. In order to further ensure face and content validity, several discussions and interviews were conducted with experts and research subjects during the development of the source questionnaire as well as the translation and pre-testing phase (see sections 3.4.4, 3.4.5 and 3.4.6).

Pre-tests with research subjects were conducted to ensure the clarity and comprehensibility of the measurement instruments, which are important aspects of face validity. During the pretest phase, several elements had been identified that were perceived as confusing or unclear by the participants. As a consequence, appropriate measures were taken and re-tested (see section 3.4.6.6 for a summary).

4.4.3 Convergent and discriminant validity

As a key step prior to further structural equation analyses, construct validity, the extent to which the measured variables actually represent the theoretical construct, needs to be assessed (Hair et al., 2013). With regard to construct validity, a distinction is made between convergent and discriminant validity (Neuman, 2014). Convergent validity refers to the degree to which multiple indicators for the same construct within the measurement instrument are correlated, in other words, effectively measure the intended construct (Hair et al., 2013). Discriminant validity, on the other hand, describes the degree to which two conceptually similar concepts diverge (Hair et al., 2013). The absence of overlap (or correlation) between scales means that the scales are distinct and therefore have discriminatory validity when different scales are used to measure theoretically different constructs (Saunders et al., 2015).

4.4.3.1 Convergent validity

Convergent validity was assessed by means of principal component analyses (PCA) and factor analyses (CFA). First, all multidimensional measurement instruments were subjected to a PCA. No PCA was conducted for the instrument measuring psychological well-being since this is a one-dimensional measurement instrument. The aim of the PCA was to verify whether the underlying factor

structure of the measurement instrument in the present research is consistent with the factor structure of the original measurement instrument according to its theory and previous studies (Pallant, 2016).

The suitability of the data for a PCA was checked using the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy and the Bartlett's Test of Sphericity. According to the guidelines of Hair et al. (2013) a KMO value > .5 was considered acceptable. Furthermore, a significant Bartlett's test ($p<.001$) was considered as a prerequisite for the PCA to be appropriate (Dziuban & Shirkey, 1974). PCA's were performed based on the correlation matrix with varimax rotation. Following the recommendations of Comrey and Lee (1992), factor loadings of > .45 were considered adequate. In accordance with Matsunaga's (2010) rule of thumb, a difference of less than .3 to the primary loading was considered a secondary loading.

The results of the PCA for the **ambidexterity** measurement instrument are presented in table 17. As the table shows, the two components were extracted exactly as intended by the measurement instrument. The eigenvalues prior to Varimax rotation were 6.278, 2.109, .926, .803, .778, .691, .617, .593, .550, .490, .462, .407, .368, .345, .318 and .265. The two extracted components explained 52.419% of the variance.

Before performing the PCA, the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett's test of sphericity have been assessed. The KMO value was .922 and Bartlett's test was significant, indicating the adequacy of the PCA.

Table 17: Results of the principal component analysis of the ambidexterity measurement instrument

Rotated Component Matrix [a]	Component 1	Component 2
Exploitation		
1. frequently recurring activities	-.254	**.645**
2. easily plannable activities	-.093	**.684**
3. activities whose execution is completely clear	-.289	**.753**
5. activities that refer to a clearly defined problem area	-.047	**.580**
7. activities that can be carried out within a previously defined period	.009	**.610**
9. activities that you carry out very routinely	-.313	**.694**
13. activities you carry out in accordance with a familiar pattern	-.248	**.705**
15. activities for which you are well prepared	-.271	**.666**
Exploration		
4. activities that require a completely different strategy	**.672**	-.183
6. activities that are so complex that they are difficult to survey at the start	**.619**	-.251
8. activities in which you do not acquire the competences required for carrying them out until you actually carry them out	**.648**	-.052
10. activities that are so complex that they are difficult to survey at the start	**.780**	-.219

11. activities in which you have to deal with previously unknown situations	**.810**	-.215
12. activities that require a good deal of adaptability on your part	**.716**	-.141
14. activities in which you enter previously unknown territory	**.799**	-.244
16. activities in which you reach the limits of your knowledge	**.678**	-.101

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 3 iterations.

The PCA results for the **personality** measurement instrument can be found in table 18. A KMO score of .825 and a significant Bartlett's test indicated the appropriateness of performing PCA. The five personality factors were extracted in line with the theoretical Big Five personality model. The eigenvalues prior to Varimax rotation were 5.244, 2.608, 1.976, 1.930, 1.605, 1.223, 1.159, 1.039, .911, .901, .819, .802, .735, .711, .691, .689, .642, .639, .578, .553, .541, .517, .497, .495, .456, .440, .431, .403, .395 and .369. The five extracted components explained 44.545% of the variance.

For some items, secondary loadings were found. As already discussed in theory section 2.5.1, this is a frequent observation in personality research, which is an expression of the actual conceptual overlaps and interrelationships of the personality traits (Beauducel & Wittmann, 2005; Carciofo, Yang, Song, Du, & Zhang, 2016; McCrae, 2009). Personality researchers conclude that *"This feature with primary and secondary loadings is characteristic of the majority of the trait-variables in the Big Five structure."* (De Raad, 2009, p. 138). Since the primary loadings of the items corresponded exactly to the factor structure specified by the measurement instrument and the secondary loadings are considered typical in FFM research, all items were accepted for further analyses.

Table 18: Results of the principal component analysis of the personality measurement instrument

Rotated Component Matrix [a]	Component				
	1	2	3	4	5
Extraversion					
1. Tends to be quiet.	.349	**-.638**	-.005	.123	.126
6. Is dominant, acts as a leader.	.112	**.593**	-.040	-.143	.244
11. Is full of energy.	.323	**.534**	-.193	.160	.110
16. Is outgoing, sociable.	.063	**.613**	-.007	.361	.026
21. Prefers to have others take charge.	-.080	**-.551**	.105	.145	-.247
26. Is less active than other people.	-.155	**-.526**	.123	-.259	-.021
Agreeableness					
2. Is compassionate, has a soft heart.	-.103	-.108	-.093	**.677**	.105
7. Is sometimes rude to others.	-.248	.117	.252	**-.564**	.091
12. Assumes the best about people.	.115	.166	.141	**.556**	.041
17. Can be cold and uncaring.	.023	-.272	-.008	**-.542**	-.075

22. Is respectful, treats others with respect.	.089	.047	-.319	**.520**	.062
27. Tends to find fault with others.	-.294	.132	.152	**-.459**	.022
Conscientiousness					
3. Tends to be disorganized.	-.067	.008	**.758**	.037	.089
8. Has difficulty getting started on tasks.	-.187	-.174	**.642**	-.040	-.013
13. Is reliable, can always be counted on.	.046	.164	**-.468**	.316	.037
18. Keeps things neat and tidy.	-.005	-.067	**-.593**	.002	-.035
23. Is persistent, works until the task is finished.	.046	.112	**-.621**	.070	.152
28. Can be somewhat careless.	-.144	-.093	**.581**	-.207	-.050
Negative Emotion					
4. Worries a lot.	**-.687**	-.189	-.018	.095	-.025
9. Tends to feel depressed, blue.	**-.594**	-.296	.081	-.090	.020
14. Is emotionally stable, not easily upset.	**.734**	-.072	-.069	.160	.144
19. Is relaxed, handles stress well.	**.706**	.039	-.140	.048	.171
24. Feels secure, comfortable with self.	**.502**	.386	-.247	.047	.093
29. Is temperamental, gets emotional easily.	**-.568**	.097	.141	-.358	-.008
Open Mindedness					
5. Is fascinated by art, music, or literature.	-.152	-.075	.030	.163	**.691**
10. Has little interest in abstract ideas.	-.133	-.096	.010	.042	**-.524**
15. Is original, comes up with new ideas.	.207	.391	-.007	.021	**.517**
20. Has few artistic interests.	.115	.036	-.044	-.151	**-.657**
25. Is complex, a deep thinker.	.193	.088	-.099	-.066	**.552**
30. Has little creativity.	-.173	-.235	.057	-.022	**-.498**

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

[a] Rotation converged in 8 iterations.

Table 19 presents the results of the PCA for the **team climate** measurement instrument. The KMO score was .923 and Bartlett's test was significant, indicating the suitability of the data for PCA. The eigenvalues prior to Varimax rotation were 6.514, 1.288, 1.012, .867, .653, .569, .524, .468, .454, .391, .370, .342, .312 and .236. The four components were extracted as specified by the measurement instrument and explained 69.151% of the variance.

Table 19: Results of the principal component analysis of the team climate measurement instrument

Rotated Component Matrix [a]

	1	2	3	4
Vision				
1 How far are you in agreement with the objectives of your team?	.337	**.706**	-.002	.201
2 To what extent do you think your team's objectives are clearly understood by other members of the team?	.415	**.674**	-.020	.267

3 To what extent do you think your team's objectives can actually be achieved?	.199	**.738**	.181	.048
4 How worthwhile do you think these objectives are to the organisation?	-.043	**.712**	.304	.109
Task Orientation				
5 Are team members prepared to question the basis of what the team is doing?	.122	.136	.111	**.849**
6 Does the team critically appraise potential weaknesses in what it is doing in order to achieve the best possible outcome?	.261	.198	.230	**.771**
7 Do members of the team build on each other's ideas in order to achieve the best possible outcome?	.319	.203	.305	**.679**
Participative Safety				
8 We have a "we are in it together" attitude.	**.711**	.208	.261	.182
9 People keep each other informed about work-related issues in the team.	**.730**	.228	.255	.133
10 People feel understood and accepted by each other.	**.781**	.145	.146	.166
11 There are real attempts to share information throughout the team.	**.748**	.186	.241	.185
Support for Innovation				
12 People in this team are always searching for fresh, new ways of looking at problems.	.293	.143	**.700**	.345
13 In this team we take the time needed to develop new ideas.	.267	.157	**.845**	.156
14 People in the team cooperate in order to help develop and apply new ideas.	.366	.189	**.762**	.231

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

[a] Rotation converged in 7 iterations.

To further assess convergent validity, confirmatory factor analyses (CFA) were carried out in the next step. By means of the CFAs, the factor loadings, average variance extracted (AVE) and composite reliability (CR) were determined. According to Fornell and Larcker (1981), these are the most important criteria for investigating the extent of shared variance between the latent variables of the model.The CFA models with their standardised regression weights can be found in appendix F. Analyses were conducted using the software IBM SPSS Amos version 27.0.0.

All the results from the CFAs are presented in table 20. High factor loadings are an important indication of convergent validity. Hair et al. (2013) suggest a standardised loading estimate of at least .5 or higher to be acceptable. As table 20 indicates, this threshold was reached by all the items with the exception of two items of the exploitation scale and several items of the personality scales. The two items of the exploitation scale (questions *5. activities that refer to a clearly defined problem area* and *7. activities that can be carried out within a previously defined period*) were dropped and not included in the further analyses. A thorough discussion of the personality items follows below.

The Average Variance Extracted (AVE), which represents the average percentage of variance explained between the different items of a construct, is another important indicator of convergent validity. In general, the AVE value should be at least .5 or above (Hair et al., 2013). The AVE values of

all the scales can also be found in table 20. With the exception the vision scale of the team climate measurement instrument as well as the personality scales, this threshold was exceeded by all scales. The AVE value of the vision scale is just slightly below the threshold value. Furthermore, the other validity indicators show sound values. For this reason, the somewhat low AVE value can be neglected in the case of the vision scale. Regarding the personality scales, an overall discussion of the CFA results of this research and the data analysis of FFM measurement instruments in general follows below.

Finally, the third important parameter in determining convergent validity is composite reliability (CR). High composite reliability indicates internal consistency, suggesting that all indicators consistently represent the same latent construct. A CR value of .7 or higher suggests good convergent validity, whereas CR values between .6 and .7 are acceptable as long as other indicators indicate good convergent validity (Hair et al., 2013). As table 20 shows, the CR values of all scales except three of the personality scales were well above .7 and thus demonstrate high convergent validity.
Overall, it can be concluded that the CFAs indicated high convergent validity for all measurement instruments except the personality measurement instrument. Due to insufficient values, only the two items no. 5 and 7 of the exploitation scale had to be dropped. Several unsatisfactory results were found for the personality items. As an extensive literature research has shown, these results are not unusual but in line with previous research. There seem to be both theoretical-conceptual and analytical-technical explanations for the unsatisfactory results of the personality measurement instrument (Chiorri et al., 2016; Lui et al., 2020; Marsh et al., 2010).

The theoretical-conceptual challenges of studying Big Five personality models have already been discussed in detail in section 2.5.1. As outlined, personality is a highly sophisticated construct that has complex interrelationships and overlaps in the individual personality factors that often become apparent to personality researchers during data analysis when they encounter cross-loadings or poor model fits in factor analyses (Hofstee et al., 1992; Johnson & Ostendorf, 1993; Strus et al., 2014).

When personality researchers examine Big Five personality models with confirmatory factor analyses, they face, in addition to the challenges posed by the nature of the complex personality concept itself, analytical-technical issues and limitations posed by the underlying assumptions of the CFA (Marsh et al., 2013; Vassend & Skrondal, 1997). In this respect, numerous previous studies based on the Big Five personality model have reported similarly poor CFA results to those found in the present research (Aluja et al., 2005; Beauducel & Wittmann, 2005; Borkenau & Ostendorf, 1990). Personality researchers attribute the inadequacies of CFA in obtaining a satisfactory fit of the Big Five personality model to the fact that this analysis method makes unrealistic assumptions about the factorial complexity of the personality facets (Furnham et al., 2013). Marsh and colleagues (2013) point out that these restrictions violate the independent cluster model (ICM) on which CFAs are based, which requires that each indicator load on only one factor.

Vassend and Skrondal, who in their validation study of the Norwegian version of the NEO Personality Inventory, another FFM-based measuring instrument, also encountered the shortcomings of CFA in analysing personality models, attribute this to three key issues: *"(i) consequences of different model acceptance criteria in the EFA and CFA traditions, (ii) the logical-semantical nature of the NEO-PI (and similar instruments), and (iii) consequences of the selection problem (factorial invariance problem) in cross-validation research"* (Vassend & Skrondal, 1997, p. 157). Thus, on the one hand, the problem areas identified by Vassend and Skrondal relate to the analysis-technical shortcomings, namely to the excessive restrictions of CFA compared to EFA and the different model selection strategies of the two analysis techniques. On the other hand, they relate to the challenges posed by the complexity of personality models, namely the multi-layered relationships between personality factors and facets.

These apparent shortcomings of CFA in the analysis of personality structures have led researchers to recommend the use of alternative analytical techniques in the field of FFM research (Furnham et al., 2013; Lang et al., 2011; Marsh et al., 2013; McCrae, Robert R. Zonderman et al., 1996; Rammstedt et al., 2018). For example, some researchers have been able to overcome the shortcomings of CFA by applying exploratory structural equation modelling (ESEM), an integration of CFA and EFA (Marsh et al., 2013; Rammstedt et al., 2018). Other researchers recommend relying on PCA or EFA and structural equation modelling (SEM) in analyses of personality structures (Borkenau & Ostendorf, 1990; Carciofo, Yang, Song, Du, & Zhang, 2016).

Following these recommendations, the construct validity of the personality scales in the present research was verified on the basis of the PCA results (for the PCA results, please consult table 18), which were satisfactory.

Table 20: Item loadings, average variance extracted, composite reliability and Cronbach's alpha of the scales

		Standardised item loading	AVE	CR	Cronbach's Alpha
Ambidexterity					
Exploitation			.516	.864	.848
	q2_1	.686			
	q2_2	.590			
	q2_3	.782			
	q2_5	.469 dropped			
	q2_7	.445 dropped			
	q2_9	.805			
	q2_13	.722			
	q2_15	.711			
Exploration			.506	.889	.881
	q2_4	.632			
	q2_6	.618			
	q2_8	.566			
	q2_10	.798			
	q2_11	.838			
	q2_12	.711			
	q2_14	.828			
	q2_16	.642			
Personality					

Extraversion			.258	.665	.673
	q3_1r	.254			
	q3_16	.523			
	q3_6	.535			
	q3_21r	.498			
	q3_11	.631			
	q3_26r	.528			
Agreeableness			.238	.642	.633
	q3_2	.459			
	q3_17r	.366			
	q3_7r	.634			
	q3_22	.565			
	q3_27r	.488			
	q3_12	.352			
Conscientiousnes			.299	.715	.708
	q3_3r	.605			
	q3_18	.408			
	q3_8r	.635			
	q3_23	.538			
	q3_13	.485			
	q3_28r	.580			
Negative Emotionality			.368	.776	.770
	q3_4	.571			
	q3_19r	.688			
	q3_9	.575			
	q3_24r	.596			
	q3_14r	.674			
	q3_29	.515			
Open Mindedness			.240	.634	.647
	q3_5	.311			
	q3_20r	.323			
	q3_10r	.419			
	q3_25	.458			
	q3_15	.710			
	q3_30r	.591			
Team Climate					
Vision			.468	.774	.765
	q4_1	.745			
	q4_2	.808			
	q4_3	.634			
	q4_4	.510			
Task Orientation			.533	.771	.773
	q4_5	.607			
	q4_6	.772			
	q4_7	.796			
Participative Safety			.586	.850	.847
	q5_1	.763			
	q5_2	.780			
	q5_3	.726			
	q5_4	.791			
Support for Innovation			.647	.845	.838
	q5_5	.729			
	q5_6	.808			
	q5_7	.869			
Well-being					
Anxiety			.597	.816	.814
	q6_1	.737			
	q6_2	.815			
	q6_3	.763			
Comfort			.683	.866	.869
	q6_4	.763			
	q6_5	.883			
	q6_6	.830			

Depression			.718	.884	.884
	q6_13	.847			
	q6_14	.894			
	q6_15	.797			
Enthusiasm			.657	.851	.851
	q6_10	.867			
	q6_11	.733			
	q6_12	.825			

4.4.3.2 Discriminant validity

Discriminant validity is the extent to which the scales differ, meaning that they measure distinct concepts (Hair et al., 2013). A widely used method for assessing discriminant validity is that of Fornell and Larcker (1981), which involves verifying whether the average variance extracted (AVE) for each construct is greater than the square of the correlation between the constructs.

This test was conducted for all scales used in this research. Table 21 shows the correlations and the square roots of the AVE (diagonal elements in brackets). As is evident, the square roots of the AVE are consistently larger than the correlations of the scales.

Table 21: Discriminant validity (square roots of AVE and correlation coefficients)

Correlations and square roots of the AVE (diagonal elements in brackets)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Exploitation	**(.718)**														
2. Exploration	-.517**	**(.711)**													
3. Extraversion	-.109**	.099**	**(.742)**												
4. Agreeableness	.138**	-.071**	.145**	**(.944)**											
5. Conscientiousness	.201**	-.120**	.221**	.297**	**(.871)**										
6. Negative Emotion	-.071**	.059*	-.284**	-.307**	-.310**	**(.967)**									
7. Open Mindedness	-.119**	.222**	.337**	.123**	.126**	-.296**	**(.811)**								
8. Vision	.098**	-.053*	.124**	.160**	.158**	-.221**	.045	**(.684)**							
9. Task Orientation	-.026	.119**	.105**	.168**	.085**	-.150**	.063**	.507**	**(.730)**						
10. Participative Safety	.074**	-.026	.100**	.197**	.103**	-.209**	.042	.551**	.594**	**(.765)**					
11. Support for Innovation	.029	.078**	.117**	.145**	.103**	-.213**	.098**	.485**	.620**	.677**	**(.804)**				
12. Anxiety	.128**	-.207**	.131**	.148**	.151**	-.464**	.116**	.312**	.157**	.249**	.243**	**(.772)**			
13. Comfort	.179**	-.119**	.144**	.198**	.147**	-.480**	.089**	.360**	.213**	.301**	.310**	.678**	**(.826)**		
14. Depression	.043	-.097**	.180**	.166**	.156**	-.449**	.119**	.376**	.231**	.303**	.299**	.664**	.559**	**(.847)**	
15. Enthusiasm	.051*	.064**	.351**	.246**	.213**	-.452**	.243**	.401**	.324**	.335**	.391**	.502**	.657**	.542**	**(.810)**

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

4.4.4 Testing for common method bias

All data in this research was collected by means of an online questionnaire. In such cases where self-report questionnaires are employed and all data are collected at the same time, there is always a risk of common method bias (CMB) (S. J. Chang et al., 2010; Jakobsen & Jensen, 2015; Podsakoff & Organ, 1986). CMB is characterised by systematic deviations in all variables, which are primarily caused by the research instrument and not by the actual predispositions of the respondents (Podsakoff et al., 2003; Tehseen et al., 2017). The risk of CMB is highest when both the values of the dependent and explanatory variables of interest are perceptual scores of one and the same respondent (Tehseen et al., 2017). CMB is a serious problem because it is one of the main sources of measurement error which threatens the validity of inferences about the relationships between measured variables (Podsakoff et al., 2003).

The literature describes measures that are applied before data collection to minimise the risk for the occurrence of CMB and measures that are applied after data collection to test the data for the presence of CMB (S. J. Chang et al., 2010; Podsakoff et al., 2003; Podsakoff & Organ, 1986). In the present research, measures to minimise the occurrence of CMB were taken in the research design and the development of the research instrument. As one measure prior to data collection, an anonymous survey was chosen for data collection within the research design, which minimises the risk of social desirability bias, which is a frequent cause for CMB (Duffy et al., 2005; Podsakoff & Organ, 1986). Furthermore, in developing the questionnaire, care was taken to include both positively and negatively formulated items (Weijters et al., 2013). In addition, emphasis was placed on developing a good cover story that made participants feel that their personal opinions were valued and that the information could contribute to the targeted improvement of their work environment (Podsakoff et al., 2012). However, despite all efforts prior to data collection, CMB can never be completely ruled out, which is why comprehensive testing for the potential presence of CMB was conducted as part of the data analysis.

The most popular statistical test in social research to assess the presence of CMB is Harman's single factor test (Aguirre-Urreta & Hu, 2019; Bido et al., 2018; Podsakoff & Organ, 1986). In this test, all items from each of the constructs of the research model are loaded into an exploratory factor analysis (EFA) without rotation. The test indicates CMB if (a) all items load on a single factor or (b) a single factor explains the majority of the variance (Jordan & Troth, 2020; Podsakoff et al., 2003; Podsakoff & Organ, 1986; Tehseen et al., 2017).

To evaluate these assumptions, the Harman's single factor test was conducted in two steps. The first step consisted of an unrotated EFA with extraction of the factors based on the eigenvalues. As a result of this analysis, 15 factors were extracted, which explained a total of 49.5% of the variance. The detailed results can be found in table 22. The results of this first step thus show that (a) not all items load on a factor.

Table 22: Harman's single factor test - extraction of factors based on eigenvalues

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.446	16.594	16.594	11.918	15.890	15.890
2	6.803	9.071	25.665	6.260	8.347	24.237
3	4.625	6.167	31.832	4.140	5.519	29.757
4	3.653	4.870	36.702	2.985	3.979	33.736
5	2.326	3.101	39.803	1.863	2.484	36.220
6	2.235	2.979	42.783	1.560	2.080	38.300
7	1.965	2.620	45.402	1.569	2.092	40.393
8	1.846	2.462	47.864	1.377	1.836	42.229
9	1.750	2.333	50.197	1.055	1.407	43.636
10	1.413	1.884	52.082	1.038	1.384	45.020
11	1.344	1.792	53.874	.930	1.240	46.260
12	1.253	1.670	55.544	.685	.914	47.174
13	1.158	1.544	57.088	.725	.966	48.140
14	1.143	1.524	58.612	.558	.743	48.884
15	1.023	1.363	59.976	.441	.588	49.472
16	.936	1.248	61.224			
17	.909	1.212	62.436			
18	.900	1.200	63.636			
19	.885	1.180	64.816			
20	.834	1.112	65.928			
21	.828	1.104	67.032			
22	.777	1.036	68.068			
23	.766	1.021	69.089			
24	.750	.999	70.088			
25	.716	.954	71.043			
26	.705	.940	71.982			
27	.690	.921	72.903			
28	.678	.904	73.807			
29	.663	.883	74.691			
30	.649	.866	75.556			
31	.645	.860	76.416			
32	.632	.842	77.259			
33	.611	.815	78.073			
34	.590	.787	78.860			
35	.577	.769	79.629			
36	.568	.757	80.386			

37	.553	.737	81.124
38	.540	.720	81.844
39	.532	.710	82.554
40	.515	.687	83.241
41	.513	.684	83.925
42	.506	.674	84.599
43	.494	.659	85.258
44	.486	.648	85.907
45	.476	.635	86.541
46	.467	.623	87.164
47	.458	.610	87.775
48	.451	.601	88.376
49	.436	.581	88.958
50	.427	.569	89.527
51	.416	.555	90.081
52	.413	.551	90.632
53	.403	.538	91.170
54	.388	.517	91.687
55	.380	.506	92.193
56	.377	.503	92.697
57	.369	.492	93.188
58	.358	.477	93.665
59	.352	.470	94.135
60	.348	.464	94.599
61	.336	.449	95.048
62	.322	.430	95.477
63	.318	.425	95.902
64	.314	.418	96.320
65	.304	.405	96.726
66	.286	.382	97.107
67	.284	.379	97.486
68	.276	.368	97.854
69	.270	.360	98.214
70	.252	.336	98.549
71	.244	.326	98.875
72	.230	.307	99.182
73	.215	.287	99.469
74	.202	.269	99.738
75	.196	.262	100.000

Extraction Method: Maximum Likelihood.

Rotation Method: None.

In the second step, the unrotated EFA was repeated with factor extraction restricted to one factor. The results showed an explained variance of only 15.5% of this one factor, thus also disproving that (b) a single factor explains the majority of the variance. The detailed results of this second step of the Harman's single factor test can be found in table 23.

Table 23: Harman's single factor test - extraction restricted to one factor

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Factor	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.446	16.594	16.594	11.615	15.486	15.486
2	6.803	9.071	25.665			
3	4.625	6.167	31.832			
4	3.653	4.870	36.702			
5	2.326	3.101	39.803			
6	2.235	2.979	42.783			
7	1.965	2.620	45.402			
8	1.846	2.462	47.864			
9	1.750	2.333	50.197			
10	1.413	1.884	52.082			
11	1.344	1.792	53.874			
12	1.253	1.670	55.544			
13	1.158	1.544	57.088			
14	1.143	1.524	58.612			
15	1.023	1.363	59.976			
16	.936	1.248	61.224			
17	.909	1.212	62.436			
18	.900	1.200	63.636			
19	.885	1.180	64.816			
20	.834	1.112	65.928			
21	.828	1.104	67.032			
22	.777	1.036	68.068			
23	.766	1.021	69.089			
24	.750	.999	70.088			
25	.716	.954	71.043			
26	.705	.940	71.982			
27	.690	.921	72.903			
28	.678	.904	73.807			
29	.663	.883	74.691			
30	.649	.866	75.556			
31	.645	.860	76.416			

32	.632	.842	77.259
33	.611	.815	78.073
34	.590	.787	78.860
35	.577	.769	79.629
36	.568	.757	80.386
37	.553	.737	81.124
38	.540	.720	81.844
39	.532	.710	82.554
40	.515	.687	83.241
41	.513	.684	83.925
42	.506	.674	84.599
43	.494	.659	85.258
44	.486	.648	85.907
45	.476	.635	86.541
46	.467	.623	87.164
47	.458	.610	87.775
48	.451	.601	88.376
49	.436	.581	88.958
50	.427	.569	89.527
51	.416	.555	90.081
52	.413	.551	90.632
53	.403	.538	91.170
54	.388	.517	91.687
55	.380	.506	92.193
56	.377	.503	92.697
57	.369	.492	93.188
58	.358	.477	93.665
59	.352	.470	94.135
60	.348	.464	94.599
61	.336	.449	95.048
62	.322	.430	95.477
63	.318	.425	95.902
64	.314	.418	96.320
65	.304	.405	96.726
66	.286	.382	97.107
67	.284	.379	97.486
68	.276	.368	97.854
69	.270	.360	98.214
70	.252	.336	98.549
71	.244	.326	98.875
72	.230	.307	99.182
73	.215	.287	99.469

74	.202	.269	99.738
75	.196	.262	100.000

Extraction Method: Maximum Likelihood.

Rotation Method: None.

Based on the results of Harman's single factor test, the presence of CMB can thus be excluded in the present research. However, while Harman's single factor test was considered the standard for testing for CMB until recently, there is some criticism in the more recent literature and some researchers recommend not relying on this test alone in testing for CMB (Bido et al., 2018; Jordan & Troth, 2020; Podsakoff et al., 2012; Tehseen et al., 2017).

Firstly, Harman's single factor is criticised for being a purely diagnostic procedure, meaning that it can only detect whether CMB is present, but is not able to correct the estimates according to the variance (Podsakoff et al., 2003). As a further issue in this context, it is argued that there is no generally accepted threshold that precisely defines the point at which a single factor explains the majority of the variance (Podsakoff & Organ, 1986). The second criticism is that the test is insensitive to the presence of common method effects, that is, the loading of all the items of the various measured constructs on a single factor is very unlikely unless there is a massively large method effect in the data (S. J. Chang et al., 2010; Jordan & Troth, 2020; Podsakoff et al., 2003; Tehseen et al., 2017). This criticism of Harman's single factor test has led to a recent move by researchers to use the test only to increase confidence in the results along with other statistical procedures in testing for CMB (Jordan & Troth, 2020). Therefore, following the guidelines in the literature, the present research employed the common latent factor method (CLF) in addition to the Harman's single factor test to screen the data for CMB (Jordan & Troth, 2020; Podsakoff et al., 2012; Tehseen et al., 2017).

In the CLF method, a first-order method factor is added to the Amos confirmatory factor analysis (CFA) model of the construct under study, which captures the common variance of all observed variables. This allows the items to load on both their theoretical construct as well as the inserted CLF. The standardised regression weights obtained in this CFA with CLF are then compared with the standardised regression weights of the CFA without CLF. If there is a large difference between these values, CMB is indicated. (Jordan & Troth, 2020; Podsakoff et al., 2003; Richardson et al., 2009). The literature suggests a threshold for interpreting the difference as a CMB of .200 (Alam et al., 2022; Crandall et al., 2018; Han & Zhang, 2021; Saxena et al., 2022).

The confirmatory factor analyses of the examined constructs discussed in section 4.4.3.1 and depicted in appendix F provided the starting point for the CLF analyses. According to the guidelines described above, a common latent factor was added to the initial CFA's. The CFA models extended in this way can be found in appendix G. The standardised regression weights from the models with and without

CLF and their differences are presented in table 24. As can be seen, all differences are far below the suggested threshold of .200, indicating the absence of CMB also from this test.

Table 24: Differences in standardised item loadings between the measurement models with and without CLF

		Standardised item loadings (no CLF)	Standardised item loadings with CLF	Differences
Ambidexterity				
Exploitation				
	q2_1	.686	.668	.018
	q2_2	.574	.549	.025
	q2_3	.751	.735	.016
	q2_9	.774	.756	.018
	q2_13	.707	.685	.022
	q2_15	.682	.661	.021
Exploration				
	q2_4	.631	.612	.019
	q2_6	.608	.594	.014
	q2_8	.552	.529	.023
	q2_10	.789	.772	.017
	q2_11	.838	.820	.018
	q2_12	.681	.660	.021
	q2_14	.826	.811	.015
	q2_16	.617	.596	.021
Personality				
Extraversion				
	q3_1r	.254	.201	.053
	q3_16	.523	.485	.038
	q3_6	.535	.517	.018
	q3_21r	.498	.468	.030
	q3_11	.631	.536	.059
	q3_26r	.528	.498	.030
Agreeableness				
	q3_2	.459	.385	.074
	q3_17r	.366	.284	.082
	q3_7r	.634	.614	.020
	q3_22	.565	.506	.059
	q3_27r	.488	.482	.006
	q3_12	.352	.306	.046
Conscientiousnes				
	q3_3r	.605	.601	.004
	q3_18	.408	.404	.004
	q3_8r	.635	.624	.011
	q3_23	.538	.500	.038
	q3_13	.485	.434	.051
	q3_28r	.580	.550	.030
Negative Emotionality				
	q3_4	.571	.521	.050
	q3_19r	.688	.641	.047
	q3_9	.575	.559	.016
	q3_24r	.596	.594	.002
	q3_14r	.674	.624	.050
	q3_29	.515	.510	.005
Open Mindedness				
	q3_5	.311	.269	.042
	q3_20r	.323	.283	.040
	q3_10r	.419	.401	.018
	q3_25	.458	.446	.012

	q3_15	.710	.686	.024
	q3_30r	.591	.563	.028
Team Climate				
Vision				
	q4_1	.745	.612	.133
	q4_2	.808	.695	.113
	q4_3	.634	.516	.118
	q4_4	.510	.430	.080
Task Orientation				
	q4_5	.607	.450	.157
	q4_6	.772	.636	.136
	q4_7	.796	.670	.126
Participative Safety				
	q5_1	.763	.652	.111
	q5_2	.780	.643	.137
	q5_3	.726	.557	.169
	q5_4	.791	.649	.142
Support for Innovation				
	q5_5	.729	.562	.167
	q5_6	.808	.733	.075
	q5_7	.869	.807	.062
Well-being				
Anxiety				
	q6_1	.737	.719	.018
	q6_2	.815	.754	.061
	q6_3	.763	.707	.056
Comfort				
	q6_4	.763	.726	.037
	q6_5	.883	.839	.044
	q6_6	.830	.793	.037
Depression				
	q6_13	.847	.695	.152
	q6_14	.894	.766	.128
	q6_15	.797	.716	.081
Enthusiasm				
	q6_10	.867	.826	.041
	q6_11	.733	.688	.045
	q6_12	.825	.795	.030

4.5 Descriptive analyses

A thorough examination of the data before applying multivariate procedures provides the researcher with a basic understanding of the data and the relationships between variables, which is of great importance when specifying and refining the multivariate model and interpreting the results (Hair et al., 2013). Therefore, extensive descriptive analyses were carried out prior to the hypothesis testing. These involved investigations into the characteristics of the participants as well as the main concepts of this research. After one data record had been identified as an outlier during data cleaning and consequently excluded, 1657 data records were included in the descriptive analyses. The results of these analyses are discussed in the following.

Table 25 summarises the means, standard deviations, and bivariate correlations of the research variables. In addition to ambidexterity, personality, team climate and well-being as the central constructs of this research, age, gender, educational level, occupational area, tenure, and management level were included as control variables in the analyses. Language was not included as a control variable as it was considered of limited significance or even of potential bias in the context of this research. Swiss Post employees always have the freedom to choose in which of the official national languages they wish to communicate. Many of the middle managers surveyed in this research are bilingual. These people often do not commit themselves to one language of communication but decide on a situational basis in which language they want to communicate. The choice of the language used to complete the questionnaire is thus likely to have been partly a matter of chance or situational mood. To consider it as a cultural characteristic would be a potential source of bias in the interpretation of the research results. Comparisons of the language versions to identify any potential translation issues were made during the pre-tests.

The following sections discuss the descriptive statistics related to the individual characteristics of the participants, the degree of ambidexterity demanded of them and their individual state of well-being.

Table 25: Means, Standard Deviations, and Correlations of the Research Variables

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age	43.94	11.09	1																
2. Gender	1.43	.55	-.242**	1															
3. Education	5.29	2.03	-.044	-.149**	1														
4. Functional area	7.53	3.63	-.007	.088**	-.080**	1													
5. Tenure in company	3.42	1.17	.545**	-.089**	-.242**	.085**	1												
6. Tenure in position	2.57	.99	.443**	-.062*	-.234**	.098**	.559**	1											
7. Line manager	1.81	.39	-.093**	.172**	-.153**	.072**	-.045	.032	1										
8. Exploitation	4.76	1.02	-.029	.152**	-.439**	.059*	.122**	.210**	.169**	1									
9. Exploration	3.88	1.01	-.010	-.140**	.281**	-.055*	-.149**	-.220**	-.114**	-.517**	1								
10. Ambidexterity	17.91	4.75	-.031	-.019	-.108**	.008	-.036	-.039	.037	.334**	.609**	1							
11. Extraversion	3.45	.58	-.017	.001	.119**	.108**	-.087**	-.064**	-.218**	-.109**	.099**	.008	1						
12. Agreeableness	4.09	.49	-.047	.131**	-.041	.057*	-.036	-.055*	.041	.138**	-.071**	.069**	.145**	1					
13. Conscientiousness	4.08	.55	.009	.118**	-.105**	.060*	.011	.032	.042	.201**	-.120**	.066**	.221**	.297**	1				
14. Negative emotion	2.18	.61	-.086**	.134**	-.040	-.031	-.009	-.043	.102**	-.071**	.059*	-.017	-.284**	-.307**	-.310**	1			
15. Open mindedness	3.74	.66	-.035	-.111**	.166**	.002	-.186**	-.120**	-.078**	-.119**	.222**	.114**	.337**	.123**	.126**	-.296**	1		
16. Team climate	3.77	.61	.106**	-.115**	.019	.056*	.062*	.015	-.081**	.049*	.042	.101**	.134**	.202**	.133**	-.239**	.077**	1	
17. Well-being	4.36	.78	.123**	-.081**	.004	.031	.066**	.056*	-.025	.121**	-.103**	.007	.433**	.245**	.229**	.201**	-.551**	.172**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

4.5.1 Respondents' demographic characteristics and personality profiles

The average age of the respondents was 43.94 years. The proportion of men was 58.5% and that of women 40.4%. 1.1% of the respondents did not want to make a statement about their gender or did not want to assign themselves to a particular gender. As table 26 shows, the proportion of women is significantly higher among the younger respondents than among the older ones. This corresponds to the structure of the sample and therefore cannot be attributed to a response bias. The reason for the increasing proportion of women and decreasing proportion of men can be found in the historical development of Swiss Post.

Until 1998, Swiss Post was a state authority known as PTT (Postal Telegraph and Telephone). PTT offered a vocational apprenticeship which was only gradually made accessible to women from 1972 onwards (Post, 2011). This is why working as a postal employee is seen by older people as a typical male profession. After PTT was partially liberalised in 1998 and became today's Swiss Post, under the increasing demands for gender diversity, targeted measures were taken to promote women. As a result, Swiss Post has become an increasingly attractive employer for women and the proportion of women among younger employees is now even greater than the proportion of men.

Table 26: Age and gender ratio

*Age group * Gender Crosstabulation*

			Gender				
			male	female	divers	prefer not to say	Total
Age group	-24	Count	22	44	0	0	66
		% within Age group	33.3%	66.7%	0.0%	0.0%	3.9%
	25 - 29	Count	57	83	0	5	145
		% within Age group	39.3%	57.2%	0.0%	3.4%	8.8%
	30 - 39	Count	185	179	1	4	369
		% within Age group	50.1%	48.5%	0.3%	1.1%	22.3%
	40 - 49	Count	248	204	0	5	457
		% within Age group	54.3%	44.6%	0.0%	1.1%	27.6%
	50 - 59	Count	382	139	0	2	523
		% within Age group	73.0%	26.6%	0.0%	0.4%	31.6%
	60+	Count	76	21	0	0	97
		% within Age group	78.4%	21.6%	0.0%	0.0%	5.8%
Total		Count	970	670	1	16	1657
		% within Age group	58.5%	40.4%	0.1%	1.0%	100.0%

Personality factors are often associated in literature with occupational interests and in this context with the choice of profession (Mount et al., 2005; Van Iddekinge et al., 2011). Holland (1997) even went so far as to consider vocational interests as expressions of personality.

It was thus expected that the personality profiles of the middle managers in the different work areas would differ. As table 27 shows, this is effectively the case. Consistent with previous research, business managers and salespeople showed the highest levels of extraversion (Costa et al., 1984; Waheed et al., 2017). Agreeableness was highest among customer advisors. This is not surprising either, as previous research has shown that the personality factor of agreeableness strongly correlates with customer service orientation (Frei & McDaniel, 1998). Conscientiousness was highest in the production-related work areas of transport and logistics as well as in sales and customer advice. This observation is consistent with the findings of Wilmot and Ones (2019). Based on their comprehensive study, they concluded that individuals with high levels of conscientiousness possess high motivation for goal-directed performance and a preference for predictable work environments. It is therefore quite understandable that conscientious people tend to seek jobs that require a high level of effort to meet specific targets - as is certainly the case in the production environment as well as in sales and customer service - rather than jobs where the targets are less clear, and creativity is required. The negative emotion trait was highest among legal and administrative staff. It cannot be ruled out that this is a coincidental observation, since this trait is not associated in the literature with specific vocational interests or with specific occupational fields (Costa et al., 1984; M. Lou Fox, 1996). Finally, open mindedness was highest among business managers and IT professionals. Again, this is no surprise and completely in line with previous research. Open-mindedness is associated with broad interest and a high need for variety and new stimuli, which certainly makes business development and information technology attractive to such people (Costa et al., 1984).

All in all, it can be concluded that the personality profiles of the middle managers from the different departments seem to be entirely representative of the respective occupational groups.

Table 27: Personality profiles of the respondents by work area

Report

Work area		Extraversion	Agreeable-ness	Conscientious-ness	Negative Emotion	Open Mindedness
Assistance functions / Administration	Mean	3.2667	4.0976	3.9976	2.3929	3.4571
	Std. Deviation	.55343	.57560	.61614	.82241	.64826
	N	70	70	70	70	70
Procurement	Mean	3.4778	4.0444	4.1500	1.9833	3.9667
	Std. Deviation	.66051	.50083	.49779	.63631	.55605
	N	30	30	30	30	30

Finance	Mean	3.2986	4.1083	4.0997	2.2487	3.5856
	Std. Deviation	.58415	.49767	.53910	.58655	.60816
	N	254	254	254	254	254
Business management / development	Mean	3.7828	4.0808	4.0556	1.9848	4.0076
	Std. Deviation	.41559	.47893	.54433	.45331	.57786
	N	33	33	33	33	33
Information technology	Mean	3.4776	4.0447	3.9035	2.0986	4.0244
	Std. Deviation	.48478	.46927	.55783	.61225	.61998
	N	164	164	164	164	164
Infrastructure / Security / Real estate	Mean	3.4118	4.0556	4.1405	2.2647	3.7500
	Std. Deviation	.55313	.54637	.58154	.69855	.68920
	N	51	51	51	51	51
Logistics / Production	Mean	3.4200	4.0141	4.1600	2.0659	3.8122
	Std. Deviation	.56014	.48787	.54220	.58543	.62412
	N	225	225	225	225	225
Marketing / Communication	Mean	3.4768	3.9978	4.0000	2.2870	3.7632
	Std. Deviation	.62747	.50552	.55042	.60802	.67317
	N	151	151	151	151	151
Project / Process management	Mean	3.4720	3.9975	4.0153	2.2226	3.8912
	Std. Deviation	.58731	.48215	.57899	.62860	.70785
	N	131	131	131	131	131
Human Resources	Mean	3.5061	4.1955	4.0227	2.1257	3.6113
	Std. Deviation	.57414	.47685	.54591	.60304	.77527
	N	191	191	191	191	191
Customer advice	Mean	3.4936	4.2527	4.1762	2.1900	3.7357
	Std. Deviation	.62954	.45433	.54604	.62829	.59931
	N	157	157	157	157	157
Transport	Mean	3.4000	4.0056	4.3056	2.1556	3.8417
	Std. Deviation	.58329	.49805	.48162	.45891	.58532
	N	30	30	30	30	30
Legal / Compliance / Governance	Mean	3.1905	3.9286	3.9524	2.4762	3.2500
	Std. Deviation	.58869	.66567	.79182	.73553	.35355
	N	7	7	7	7	7
Sales	Mean	3.5695	4.1452	4.1779	2.1442	3.6779
	Std. Deviation	.57012	.47109	.51988	.57958	.67399
	N	163	163	163	163	163
Total	Mean	3.4482	4.0913	4.0789	2.1762	3.7446
	Std. Deviation	.58084	.49481	.55527	.61684	.66953
	N	1657	1657	1657	1657	1657

4.5.2 Demand for ambidexterity

Previous research has found that the proportion of exploitative and explorative activities, and thus the degree of ambidexterity required, differs depending on the job function (Birkinshaw & Gupta, 2013; Miron-Spektor et al., 2018b). This finding is confirmed in the present research. As expected, exploitative activities were more likely to be required in production-related work areas such as transport and logistics, as well as in administration. In contrast, more exploitative activities were required of business managers and project managers. Table 28 provides an overview of the demand for ambidexterity by work area.

The demand for ambidexterity - which, in line with existing research, has been defined as the multiplication of exploitation and exploration - was highest in the production-related work areas of transport and logistics. This makes particular sense considering, firstly, that the middle managers from these departments are responsible for the operational business and thus the core competencies of Swiss Post and, secondly, that the data collection for this research took place in the middle of the Covid-19 pandemic. The lockdowns imposed during the pandemic and the resulting shift of business to e-commerce, has led to a massive increase in parcel volumes and posed unprecedented challenges for the transport and logistics departments in particular. In order to be able to cope with the exploding parcel volumes, the middle managers in these work areas have been challenged over the last few months to continuously optimise existing processes (exploitative activities), but also to introduce completely new processes and technologies (explorative activities). In the context of this research, the high demand for ambidexterity in the operational areas of Swiss Post is thus completely plausible.

Overall, the middle managers were significantly more required for exploitative than for explorative activities. This observation corresponds to that of Keller and Weibler (Weibler & Keller, 2011), who had used the measuring instrument applied in this research in multiple studies.

Table 28: Demand for ambidexterity by work area

Report

Work area		Exploitation	Exploration	Ambidexterity
Assistance functions / Administration	Mean	5.3571	3.3589	17.6378
	Std. Deviation	.82008	.97800	4.76217
	N	70	70	70
Procurement	Mean	4.5500	3.9833	17.3757
	Std. Deviation	1.18188	.99445	3.76913

	N	30	30	30
Finance	Mean	4.9081	3.7805	17.9390
	Std. Deviation	1.02488	1.01675	4.46691
	N	254	254	254
Business management / development	Mean	3.8384	4.6477	17.4905
	Std. Deviation	.91048	.96747	4.61418
	N	33	33	33
Information technology	Mean	4.1616	4.3849	17.9491
	Std. Deviation	.91164	.89241	4.68714
	N	164	164	164
Infrastructure / Security / Real estate	Mean	4.9673	3.6127	17.6638
	Std. Deviation	.92197	.98528	5.34829
	N	51	51	51
Logistics / Production	Mean	5.0141	3.7667	18.6460
	Std. Deviation	.97764	.98127	5.72710
	N	225	225	225
Marketing / Communication	Mean	4.5717	3.9180	17.3580
	Std. Deviation	.89205	.99719	3.89081
	N	151	151	151
Project / Process management	Mean	4.2863	4.3683	18.2516
	Std. Deviation	.91317	.95768	4.02102
	N	131	131	131
Human Resources	Mean	4.2705	4.0314	16.6455
	Std. Deviation	.96161	.96245	3.85876
	N	191	191	191
Customer advice	Mean	5.2972	3.5207	18.3247
	Std. Deviation	.90155	1.04293	5.62623
	N	157	157	157
Transport	Mean	5.5500	3.7750	20.8479
	Std. Deviation	.75576	.94709	5.75441
	N	30	30	30
Legal / Compliance / Governance	Mean	4.6905	4.0536	18.7530
	Std. Deviation	.61935	.93502	4.13399
	N	7	7	7
Sales	Mean	5.1370	3.5291	17.9236
	Std. Deviation	.75788	.83767	4.55487
	N	163	163	163
Total	Mean	4.7584	3.8761	17.9095
	Std. Deviation	1.01810	1.01484	4.75428
	N	1657	1657	1657

4.5.3 Job-related affective well-being

Depending on the work area, there were non-significant differences in the reported job-related affective well-being of the participants. The highest job-related affective well-being values were reported by middle managers from sales and the production-related areas of transport and logistics. Table 29 provides an overview of the occupational affective well-being of the respondents. However, to put the reported job-related well-being in direct relation to the work area would certainly be too short-sighted. As previous research has shown, job-related affective well-being is largely influenced by work characteristics such as job control and supportive organisational climate (Mäkikangas et al., 2007) as well as personality traits (Mäkikangas et al., 2015).

Table 29: Job-related affective well-being of the respondents

Report

Well-Being

Work area	Mean	N	Std. Deviation
Assistance functions / Administration	4.3440	70	.84197
Procurement	4.3083	30	.72257
Finance	4.3064	254	.80528
Business management / development	4.3510	33	.71375
Information technology	4.3567	164	.79933
Infrastructure / Security / Real estate	4.4493	51	.75812
Logistics / Production	4.5144	225	.71713
Marketing / Communication	4.2064	151	.72520
Project / Process management	4.3760	131	.79685
Human Resources	4.4773	191	.73039
Customer advice	3.9926	157	.93843
Transport	4.5250	30	.63168
Legal / Compliance / Governance	4.3810	7	.73260
Sales	4.5685	163	.66929
Total	4.3630	1657	.78557

As Table 30 indicates, job-related affective well-being reported by respondents tended to slightly increase with age. This observation is consistent with previous research looking at the relationship between age and affective well-being (Dorociak et al., 2017; Klaiber et al., 2021).

Table 30: Job-related affective well-being by age group

*Well-Being * Age Group*

Well-Being

Age Group	Mean	Std. Deviation	N
-24	4.2298	.88217	66
25 - 29	4.2736	.82786	145
30 - 39	4.2222	.84462	369
40 - 49	4.3917	.75375	457
50 - 59	4.4387	.73522	523
60+	4.5790	.73158	97
Total	4.3630	.78557	1657

With an average score of 4.36 on a six-point scale, the respondents report a high level of job-related affective well-being compared to other studies based on the measurement instrument used in this research (Benraïss-Noailles & Viot, 2021; Mielniczuk & Łaguna, 2018).

4.5.4 Team Climate

For the team climate subscales, the mean values 3.96 for vision, 4.03 for participative safety, 3.51 for task orientation and 3.58 for support for innovation were obtained (see table 31). These mean values are similar to previously reported data in the German-speaking areas with the measurement instrument applied in this research. In their study with German IT employees, Fischer and colleagues (Fischer et al., 2014) reported the mean scores 3.86 for vision, 3.61 for participative safety, 3.55 for task orientation and 3.42 for support for innovation.

Table 31: Mean values of the team climate subscales

Descriptive Statistics

	Mean	Std. Deviation	N
Vision	3.9668	.61719	1657
Task Orientation	3.5142	.74487	1657
Participative Safety	4.0382	.73115	1657
Support for Innovation	3.5802	.84431	1657
Team Climate Total	3.7748	.60797	1657
Valid N (listwise)			1657

By work area, overall team climate was rated highest by the salespeople with a score of 3.98 on a five-point scale, while the customer advisors reported the lowest score of 3.54 (see table 32). However, it is important to note that the middle managers in the different work areas work in different teams of different sizes. For this reason, an analysis of the team climate by work area only has limited meaning.

Table 32: Team climate by work area

Report

Team Climate

Work area	Mean	Std. Deviation	N
Assistance functions / Administration	3.7557	.62552	70
Procurement	3.7562	.68975	30
Finance	3.7659	.55608	254
Business management / development	3.7885	.53187	33
Information technology	3.6847	.69761	164
Infrastructure / Security / Real estate	3.8178	.51569	51
Logistics / Production	3.7722	.62909	225
Marketing / Communication	3.6872	.56644	151
Project / Process management	3.8734	.62039	131
Human Resources	3.8801	.55250	191
Customer advice	3.5483	.65358	157
Transport	3.7931	.55507	30
Legal / Compliance / Governance	3.5595	1.11047	7
Sales	3.9811	.51073	163
Total	3.7748	.60797	1657

4.6 Structural Equation Modelling

Structural equation modelling (SEM) was applied to investigate the extent to which the personality traits as well as the team climate moderate the impact of the demand for ambidexterity on middle managers' affective well-being. The advantage of SEM is that it allows the simultaneous examination of multiple equations involving dependency relationships, which sets it apart from other sophisticated multivariate techniques (Kline, 2015). Basic statistical methods, which can only handle a limited number of variables, would not be able to handle the sophisticated research model developed in the

theory part of this research (Schumacker & Lomax, 2004). Therefore, SEM is predestined to test the hypotheses derived in the theoretical part of this research.

Hair, Black, Babin and Anderson (2013) propose the six-step decision-making process shown in figure 21, which should be applied in any SEM study. Following this process, steps one to four have already been completed and discussed in detail in previous sections. Therefore, these steps will merely be summarised again in the following. The focus of this section lies on specifying and assessing the structural model (the final steps 5 and 6 in figure 21).

For all the SEM analyses, the software IBM SPSS Amos 27.0.0 (Arbuckle, 2017) was used.

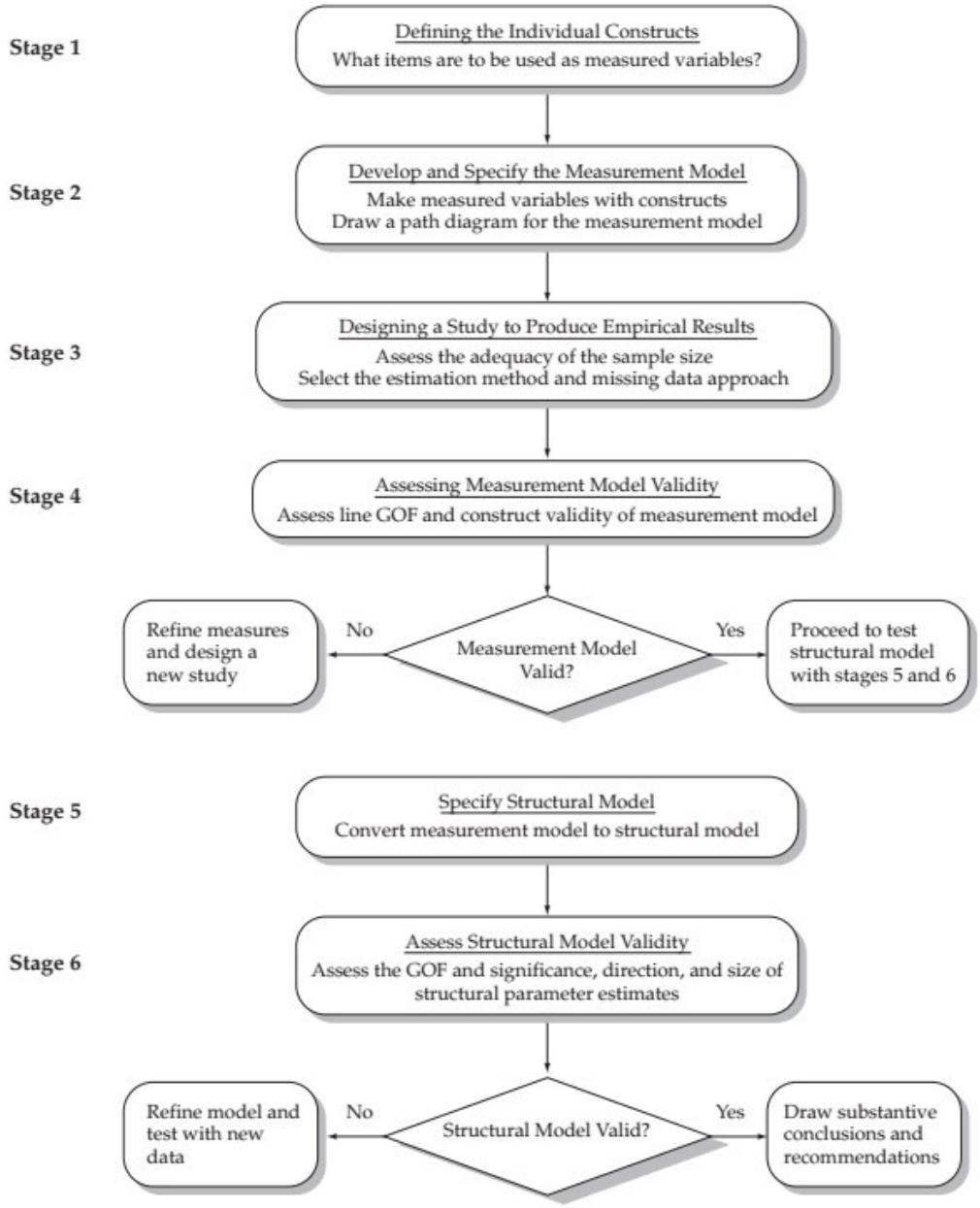


Figure 21: The six stages of SEM modelling. Source: (Hair et al., 2013)

4.6.1 Development and assessment of the measurement model

Experts emphasise that model specification in SEM must be based strictly on sound theory (Hair et al., 2013; Schumacker & Lomax, 2004). Kline (2015) points out that the idea of SEM is not to find a model that fits the data, but to verify whether the model derived from the theory and research ideas is confirmed in the data. In line with these suggestions, the measurement model for this SEM analysis was derived from the research model developed and discussed in the theoretical part of this dissertation (see figure 6).

The research model includes the four constructs of demand for ambidexterity, personality, psychological well-being and organisational climate. These constructs were operationalised through existing measurement instruments and included in the questionnaire employed in this research. Following data collection, the reliability and validity of these measurement tools were thoroughly assessed (see discussion in section 4.4). The path diagrams resulting from the confirmatory factor analyses conducted in this context represent the SEM measurement model (Hair et al., 2013; Weston & Gore, 2006). The final path diagrams of all constructs are presented in the following.

Since items 5 and 7 of the exploitation scale had been dropped as discussed in section 4.4.3.1, the exploitation scale of the final measurement instrument thus comprised six items, that of the exploration scale eight items. The corresponding path diagram is shown in figure 22. The initial path diagram can be found in appendix F, figure 45.

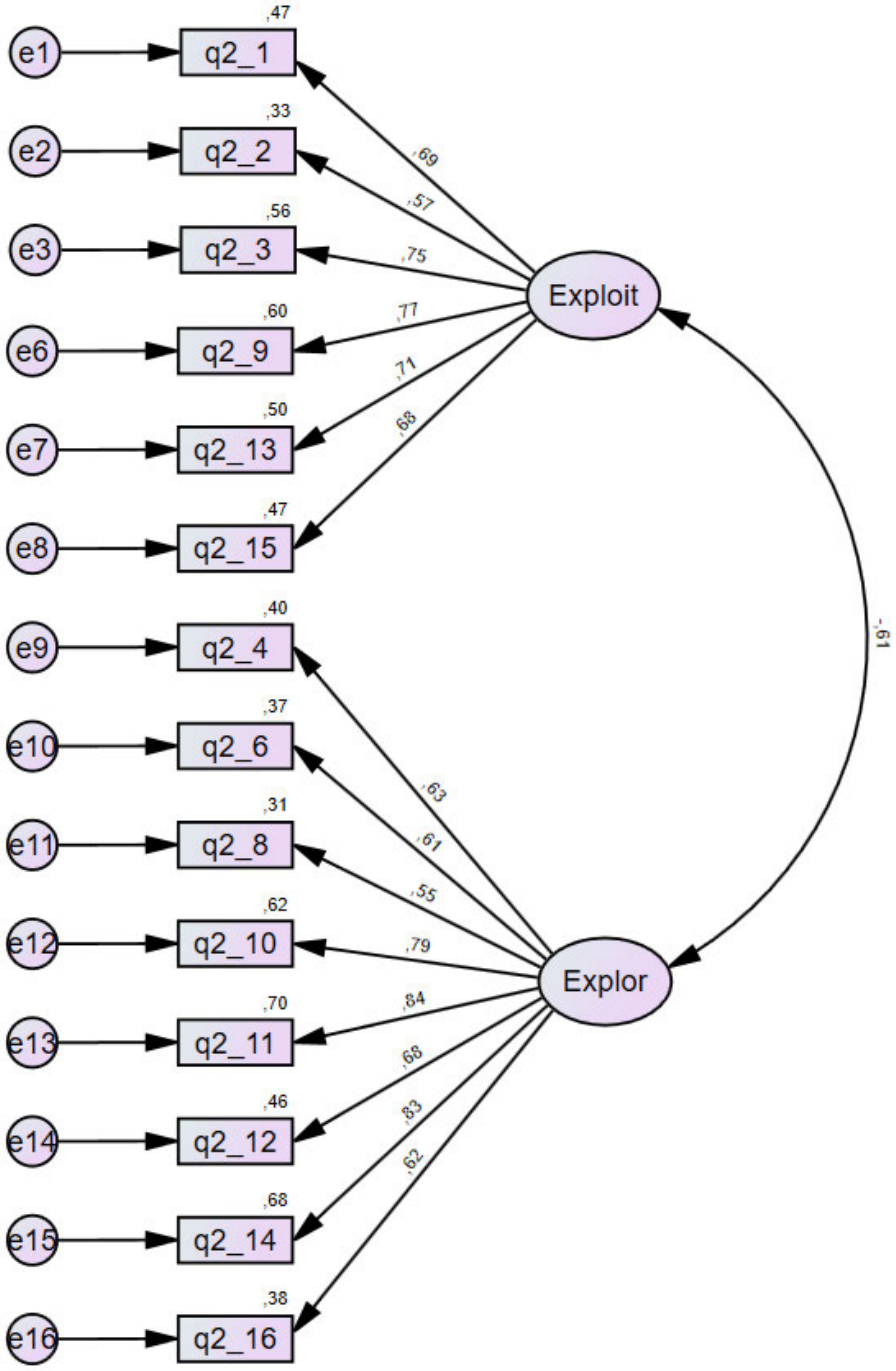


Figure 22: Final path diagram for Ambidexterity

The measuring instrument of personality is two-dimensional. It consists of five scales measuring the personality factors, each with three subscales measuring personality facets (Rammstedt et al., 2018). The measurement instrument showed high reliability and validity in the preliminary investigation discussed in section 4.4 and was therefore adopted for the SEM analysis without any adjustments. The final path diagram is depicted is shown in figure 23. The initial path diagram can be found in appendix F, figure 46.

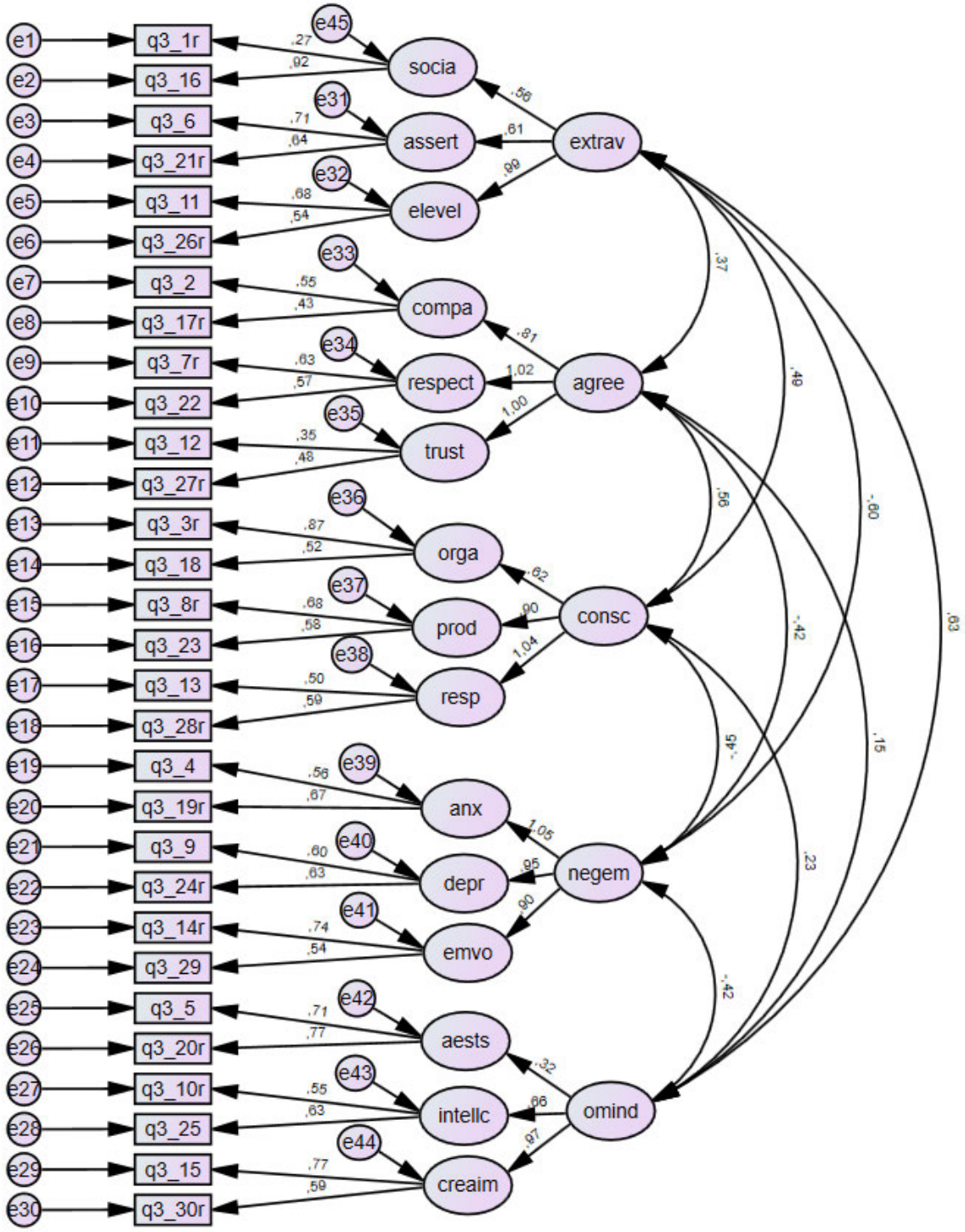


Figure 23: Final path diagram for Personality

The measuring instrument for the team climate consists of the four scales Vision, Task Orientation, Participative Safety and Support for Innovation. The measurement instrument demonstrated high reliability and validity and was therefore also incorporated without any modifications into the SEM

analysis. The path diagram is presented in figure 24. The initial path diagram can be found in appendix F, figure 47.

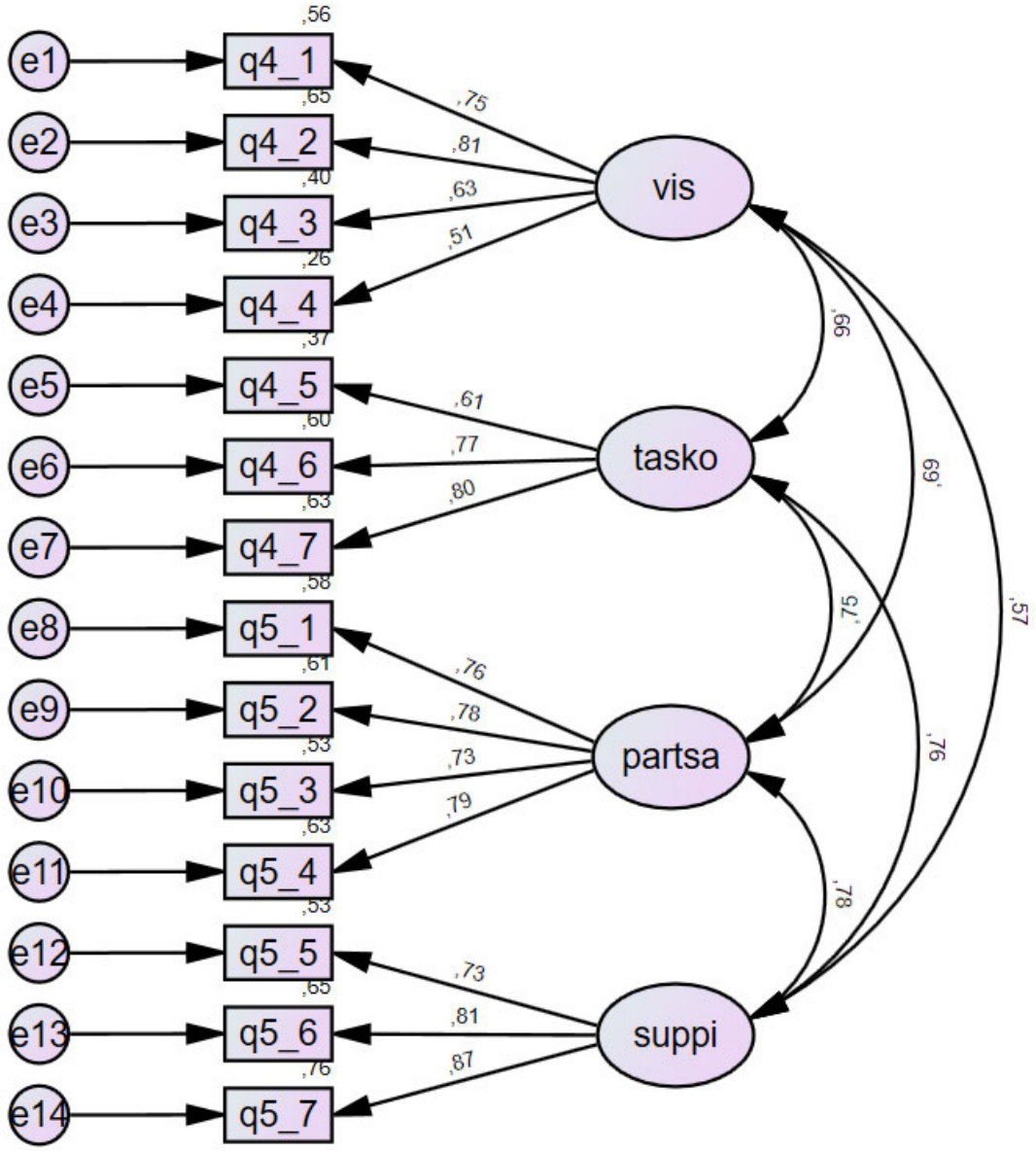


Figure 24: Final path diagram for Team Climate

The measurement instrument for well-being, which consists of the four scales Anxiety, Comfort, Depression/DepressionInitial and Enthusiasm, was tested with the scales Depression and DepressionInitial. DepressionInitial consists of the three items that showed significant skewness and kurtosis values in the pilot test (see section 3.4.8.3). For this reason, it was replaced by the Depression scale, which consists of the three alternative items. The final path diagram is shown in figure 25. The initial path diagram can be found in appendix F, figure 48.

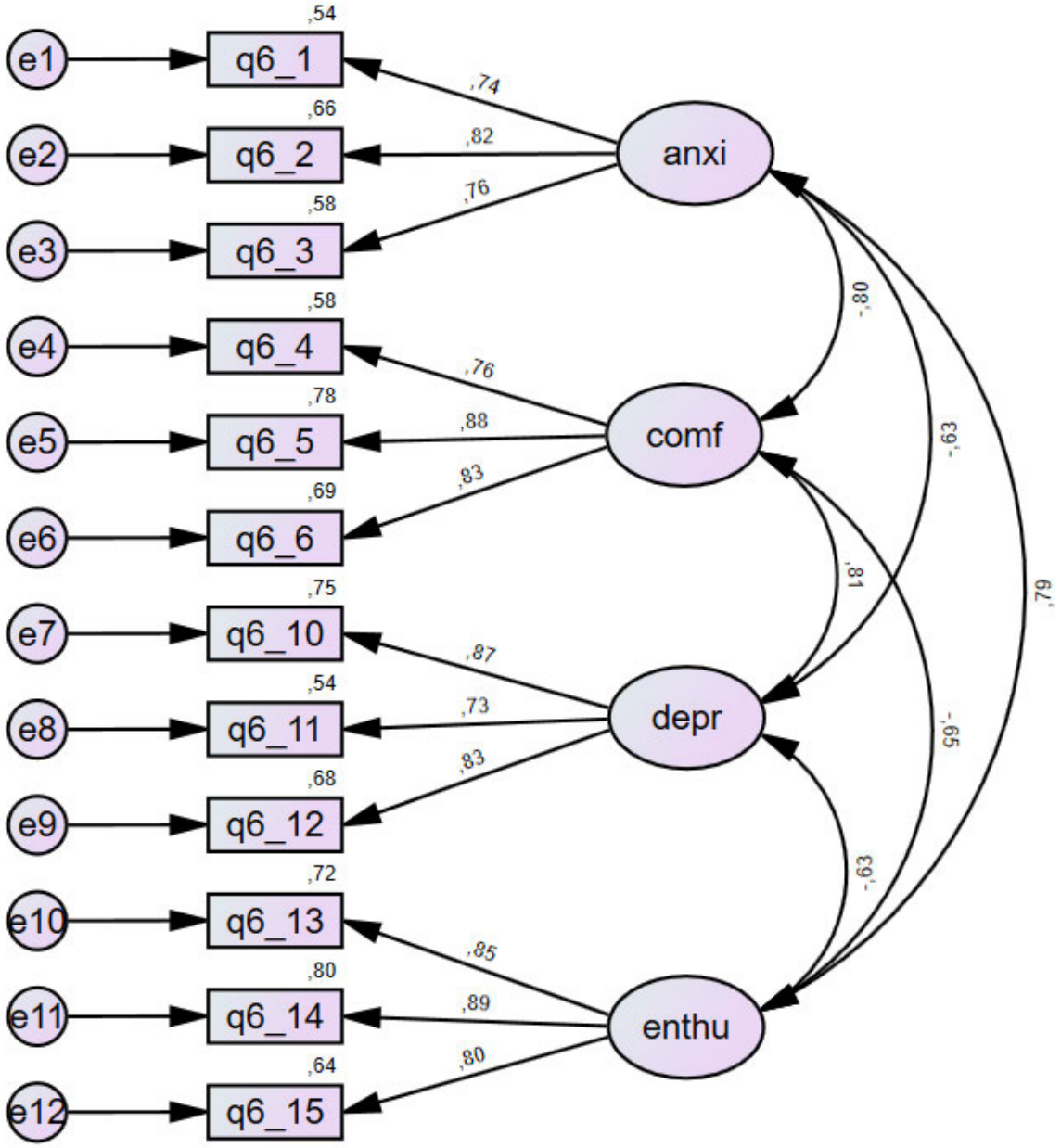


Figure 25: Final path diagram for Well-being

With the path diagrams discussed above, a satisfactory measurement model has now been obtained, on the basis of which the structural theory will be tested in the next step (Hair et al., 2013).

4.6.2 Specification of the structural model

The two-stage SEM process proposed by Anderson and Gerbing (1988) involves sequential testing of the fit and validity of the measurement model and the structural model. Hair, Black, Babin and Anderson (2013) refers to this approach as essential arguing that valid structural theory tests cannot be performed with poor measures. Representing the first step, with the measurement model discussed in the previous section, consisting of the four constructs demand for ambidexterity, personality, employee wellbeing and organisational climate, the relationships between the measured and latent variables were specified. In the second step, the aim is now to specify the relationships between the latent variables as proposed in the research model in the form of the structural model (Schumacker & Lomax, 2004).

As indicated by the research model, in addition to the direct effect of the demand for ambidexterity on well-being, the moderating effects through the big five personality factors as well as the organisational climate are to be specified. In SEM, the moderating effect of a continuous observed variable is modelled by creating a new variable which is the product of the variable being moderated (X) and the moderating variable (W) (Kline, 2015). To avoid problems of collinearity with the original constructs, it is recommended to mean-center the variables before forming the product terms (Collier, 2020). This standardisation as well as the formation of the product terms was carried out using the software IBM SPSS Statistics version 25.

Furthermore, the control variables age, gender, education, job area, manager function and tenure were included in the structural model. By controlling for other predictors, it is possible to determine whether the contribution of the individual independent variables remains significant and thus whether they are important for the prediction (Westfall & Yarkoni, 2016). Thereby, it is important that the choice of control variables is based on norms in the domain or findings from previous research (Rohrer, 2018).

The resulting structural model is presented in figure 26.

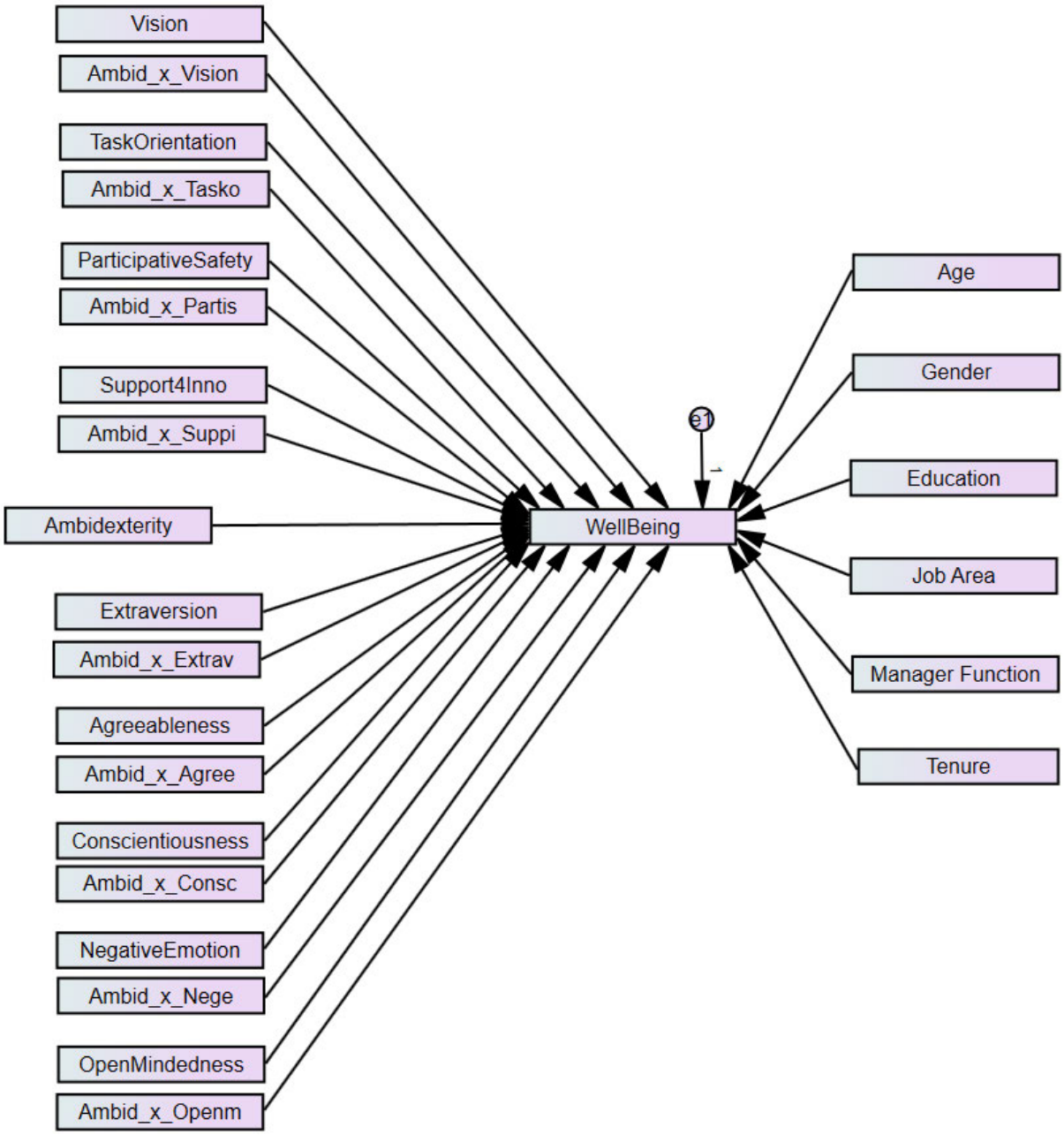


Figure 26: Initial structural model

4.6.3 Assessment of the structural model

To evaluate the structural model discussed above, the maximum likelihood estimation procedure (MLE) was applied. MLE has proven to be robust and reliable under many different circumstances and, as the most widely used approach, is the default setting in most SEM programs (Hair et al., 2013).

Since there is no consensus in the literature on the measure of goodness of fit, it is recommended to use multiple tests (Kline, 2015; Schreiber et al., 2006). To assess the model, the most widely used measures were applied, which are: Model chi-square (CMIN), Relative chi-square (CMIN/df), Goodness-of-fit Index (GFI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA) and Standardised Root Mean Square Residual (SRMR) (Hair et al., 2013; Kline, 2015). The measures applied in this research, as well as their acceptable thresholds, are listed in table 33.

Table 33: Fit indices employed in this research and their acceptable thresholds

Fit Index		Acceptable Threshold Levels	Source
Model chi-square	CMIN	p-value > .05	(Barrett, 2007)
Relative chi-square	CMIN/df	< 2	(Schreiber et al., 2006)
GFI	GFI	> .90	(Hu & Bentler, 1995)
CFI	CFI	> .95	(Hu & Bentler, 1995)
RMSEA	RMSEA	< .08	(Loehlin, 2004)
SRMR	SRMR	< .10	(Kline, 2015)

For the initial model, a chi-square of .000 with 0 degrees of freedom and a p-value of also 0 was found. Since the chi-square was zero, the p-value could not be calculated. Such a model is referred to as ‘just-identified’. It represents the perfect fit with as many knowns as unknowns (Arbuckle, 2020). The other fit indices were GFI = 1.000, CFI = 1.000, RMSEA = .145 and SRMR = .0000. A summary of the values can be found in table 34.

Table 34: SEM results of the initial model

Fit Index	Result	Goodness-of-fit
p	-	-
CMIN	.000	Satisfactory
df	0	Satisfactory
CMIN/df	.000	Satisfactory
GFI	1.000	Satisfactory
CFI	1.000	Satisfactory
RMSEA	.145	Unsatisfactory
SRMR	.0000	Satisfactory

Although just-identified models permit an exact solution, in practice over-identified models are preferred because, unlike just-identified models, they allow for statistical goodness-of-fit tests (Loehlin, 2004). To get from a just-identified model to an over-identified model, a model modification is

recommended (Kline, 2015). The respecification of the model is discussed in the following section. The path diagram of the initial model is presented in figure 27.

.

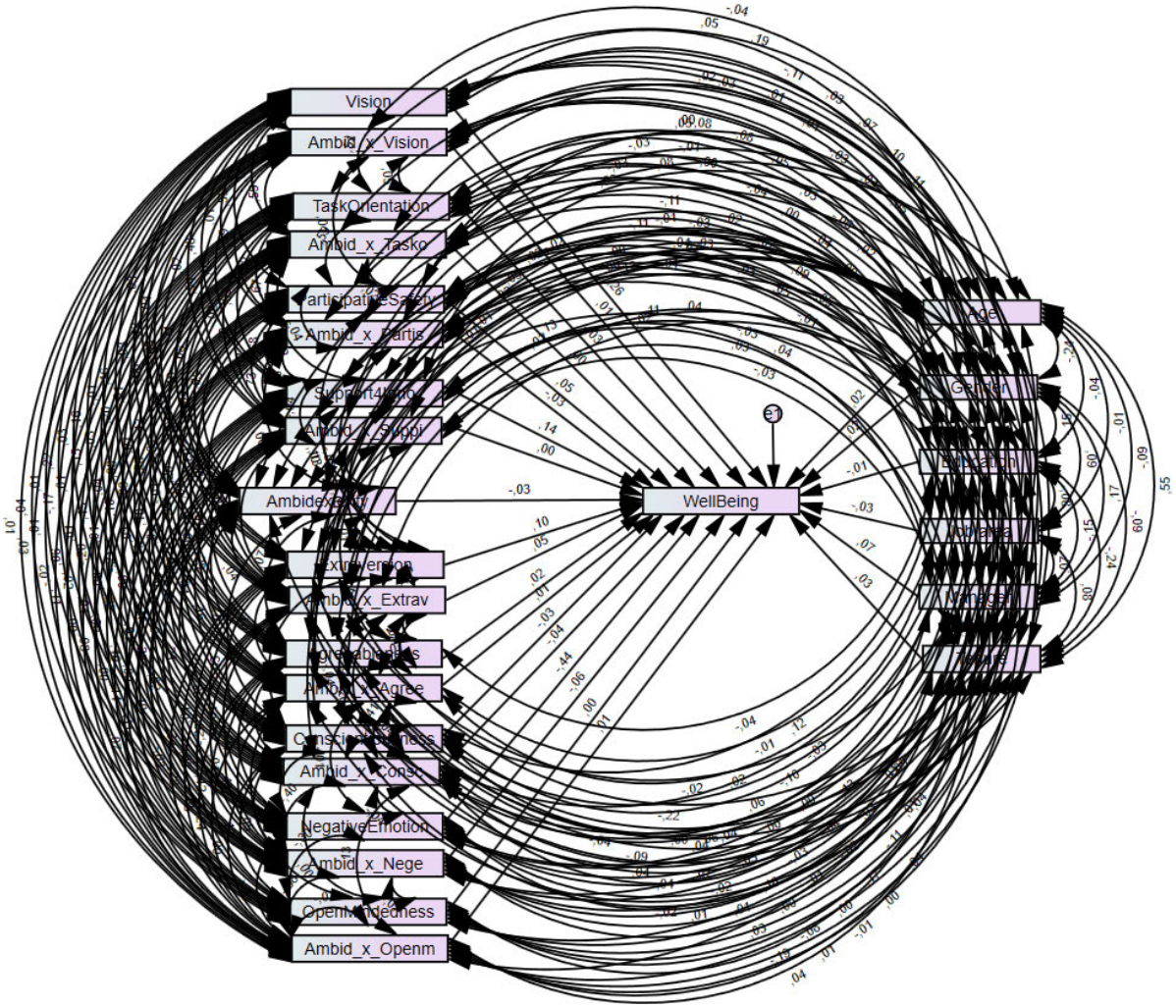


Figure 27: SEM results for the initial model with the standardised estimates

Table 35 presents the unstandardised estimates, their standard errors (abbreviated as S.E.), the estimate divided by the standard error (abbreviated as C.R. for critical ratio), and the p-values of the initial model. At the .10 threshold level for statistical significance, critical ratios of 1.64 are considered statistically significant, at the .05 threshold level, critical ratios of 1.96 and at the .01 threshold level, critical ratios of 2.58 (Arbuckle, 2020; Volchok, 2020).

Table 35: Regression weights for the initial model

			Estimate	S.E.	C.R.	P	Label
WellBeing	←-	Ambidexterity	-.026	.019	-1.325	.185	
WellBeing	←-	Extraversion	.097	.021	4.645	.000***	
WellBeing	←-	Ambidexterity _x_ Extraversion	.049	.020	2.423	.015**	
WellBeing	←-	Agreeableness	.020	.020	.981	.327	
WellBeing	←-	Ambidexterity _x_ Agreeableness	.011	.021	.534	.593	
WellBeing	←-	Conscientiousness	-.025	.020	-1.223	.221	
WellBeing	←-	Ambidexterity _x_ Conscientiousness	-.040	.021	-1.890	.059*	
WellBeing	←-	OpenMindedness	-.001	.021	-.034	.973	
WellBeing	←-	Ambidexterity _x_OpenMindedness	.007	.021	.331	.740	
WellBeing	←-	NegativeEmotion	-.444	.022	-20.549	.000***	
WellBeing	←-	Ambidexterity _x_ NegativeEmotion	-.056	.022	-2.586	.010***	
WellBeing	←-	ParticipativeSafety	.046	.028	1.660	.097*	
WellBeing	←-	Ambidexterity _x_ ParticipativeSafety	-.032	.028	-1.117	.264	
WellBeing	←-	Support4Innovation	.137	.027	5.005	.000***	
WellBeing	←-	Ambidexterity _x_ Support4Innovation	-.003	.028	-.090	.929	
WellBeing	←-	TaskOrientation	-.031	.025	-1.211	.226	
WellBeing	←-	Ambidexterity _x_Taskorientation	-.004	.026	-.139	.889	
WellBeing	←-	Vision	.257	.024	10.817	.000***	
WellBeing	←-	Ambidexterity _x_Vision	.007	.022	.299	.765	
WellBeing	←-	Age	.002	.002	1.029	.303	
WellBeing	←-	Gender	.035	.036	.953	.341	
WellBeing	←-	Education	-.007	.010	-.686	.493	
WellBeing	←-	Tenure	.021	.020	1.084	.278	
WellBeing	←-	WorkArea	-.007	.005	-1.416	.157	
WellBeing	←-	ManagerFunction	.190	.050	3.802	.000***	

*Note: *P < 0.10(T≧1.64); **P < 0.05(T≧1.96); ***P < 0.01(T≧2.58).*

4.6.4 Model modification

Model modification or respecification, which is part of most SEM analyses, should be done in a targeted and justified manner (Hair et al., 2013). Indications of reasonable model modifications can be found in statistics, such as correlation residuals, standardised residuals or modification indices, or in the theory (Kline, 2015). For the initial model, Amos did not provide any modification indices, which would be good indicators for reasonable model modifications (Loehlin, 2004). Therefore, the regression weights were considered (Hair et al., 2013). As can be seen in table 35, the product term of ambidexterity and task orientation, which represents the moderator effect of task orientation, showed the highest p-value. For this reason, this parameter was removed from the model. Furthermore, insignificant p-values were found in the initial model for the control variables age, gender, education, tenure, and work area. It is generally recommended to exclude control variables that do not show a significant correlation with the dependent variable from the model (Becker, 2005). Following this advice, these control variables were also removed from the model. As it became evident after running the modified model, the desired over-identification was achieved by removing these parameters.

With a model chi-square of .008, a relative chi-square of .008, a GFI and CFI of 1.000 each, an RMSEA of .000 and an SRMR of .0000, the model demonstrated excellent fit (see table 36). The path diagram of the modified model with the standardised estimates is shown in figure 28.

Table 36: SEM results for the modified model

Fit Index	Result	Goodness-of-fit
p	.931	Satisfactory
CMIN	.008	Satisfactory
df	1	Satisfactory
CMIN/df	.008	Satisfactory
GFI	1.000	Satisfactory
CFI	1.000	Satisfactory
RMSEA	.000	Satisfactory
SRMR	.0000	Satisfactory

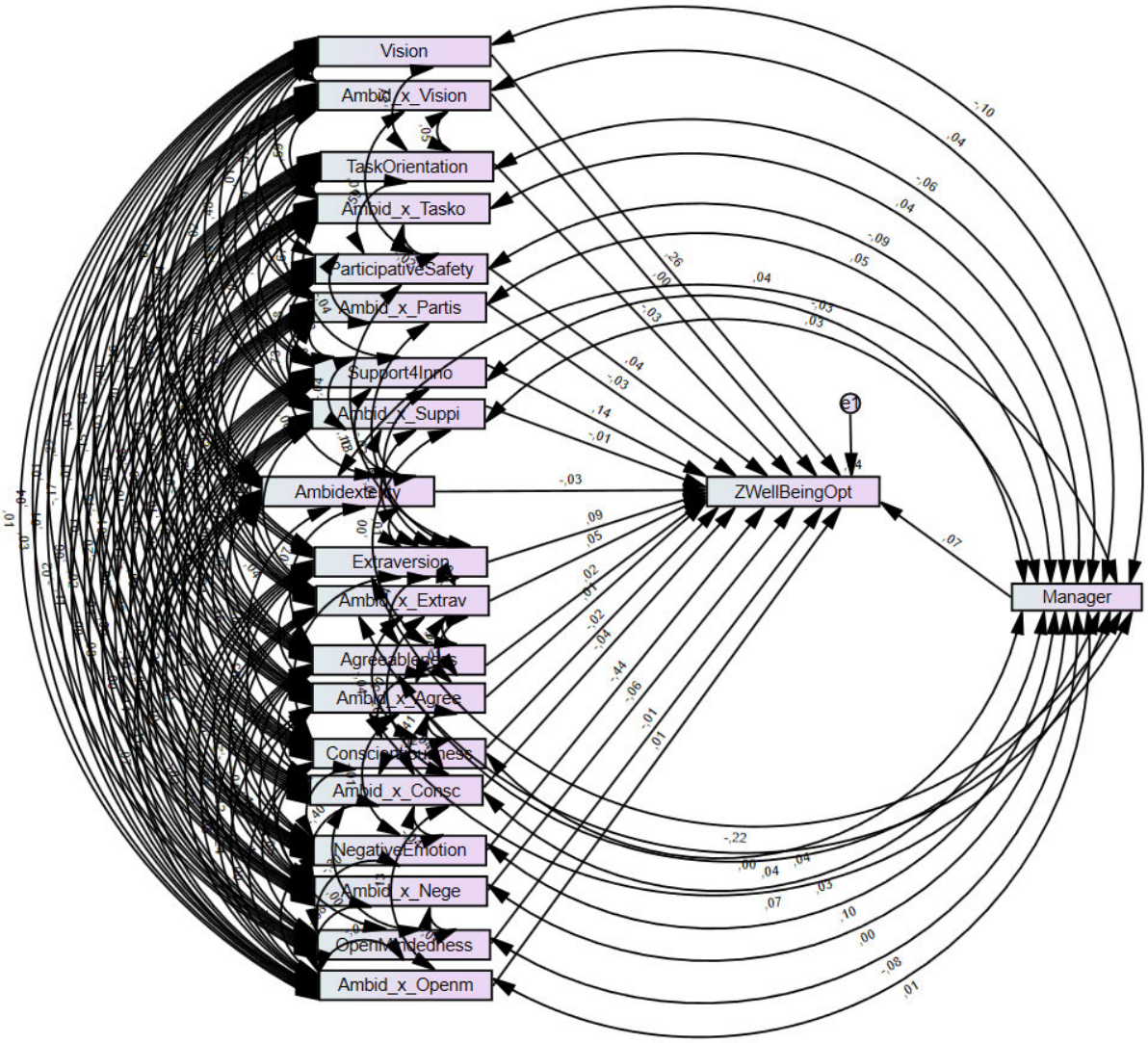


Figure 28: SEM results for the modified model with the standardised estimates

The regression weights for the modified model are presented in table 37.

Table 37: Regression weights for the modified model

			Estimate	S.E.	C.R.	P	Label
WellBeing	<---	Ambidexterity	-.026	.019	-1.324	.186	
WellBeing	<---	Extraversion	.091	.021	4.410	.000***	
WellBeing	<---	Ambidexterity _x_ Extraversion	.052	.020	2.545	.011**	
WellBeing	<---	Agreeableness	.020	.020	.991	.322	
WellBeing	<---	Ambidexterity _x_ Agreeableness	.011	.021	.513	.608	
WellBeing	<---	Conscientiousness	-.020	.020	-1.010	.313	
WellBeing	<---	Ambidexterity _x_ Conscientiousness	-.040	.021	-1.913	.056*	
WellBeing	<---	OpenMindedness	-.010	.020	-.465	.642	
WellBeing	<---	Ambidexterity _x_ OpenMindedness	.007	.021	.314	.753	
WellBeing	<---	NegativeEmotion	-.445	.021	-20.793	.000***	
WellBeing	<---	Ambidexterity _x_ NegativeEmotion	-.055	.022	-2.525	.012**	
WellBeing	<---	TaskOrientation	-.034	.025	-1.326	.185	
WellBeing	<---	ParticipativeSafety	.041	.028	1.500	.134	
WellBeing	<---	Ambidexterity _x_ ParticipativeSafety	-.031	.028	-1.106	.269	
WellBeing	<---	Support4Innovation	.141	.027	5.157	.000***	
WellBeing	<---	Ambidexterity _x_ Support4Innovation	-.005	.026	-.181	.856	
WellBeing	<---	Vision	.262	.023	11.252	.000***	
WellBeing	<---	Ambidexterity _x_Vision	.004	.021	.206	.837	
WellBeing	<---	ManagerFunction	.185	.049	3.771	.000***	

*Note: *P < 0.10(T≧1.64); **P < 0.05(T≧1.96); ***P < 0.01(T≧2.58).*

4.7 Hypothese testing

All hypotheses were tested on the basis of the modified SEM model discussed above. The results of the hypothesis tests are summarised in table 38. The tests and their results are discussed in the following.

Table 38: Results of the hypothesis tests

Hypothese	C.R.	P	Result
H1: The demand for ambidexterity has a negative effect on middle managers' psychological well-being.	-1.324	.186	Rejected
H2: Openness to experience positively moderates the impact of the demand for ambidexterity on middle managers' well-being.	.314	.753	Rejected
H3: Conscientiousness negatively moderates the impact of the demand for ambidexterity on middle managers' well-being.	-1.913	.056	Supported
H4: Neuroticism negatively moderates the impact of the demand for ambidexterity on middle managers' well-being.	-2.525	.012	Supported
H5: Agreeableness positively moderates the impact of the demand for ambidexterity on middle managers' well-being.	.513	.608	Rejected

Hypothese	C.R.	P	Result
H6: Extraversion positively moderates the impact of the demand for ambidexterity on middle managers' well-being.	2.545	.011	Supported
H7: Vision positively moderates the impact of the demand for ambidexterity on middle managers' well-being.	.206	.837	Rejected
H8: Participative safety positively moderates the impact of the demand for ambidexterity on middle managers' well-being.	-1.106	.269	Rejected
H9: Task orientation positively moderates the impact of the demand for ambidexterity on middle managers' well-being.	-	-	Rejected
H10: Support for innovation positively moderates the impact of the demand for ambidexterity on middle managers' well-being.	-.181	.856	Rejected

4.7.1 Direct effect of the demand for ambidexterity on well-being

Hypothesis H1 predicted a direct impact of the demand for ambidexterity on the psychological well-being of the employee. However, as shown by the regression weights presented in Table 37, the direct relationship between the demand for ambidexterity and well-being is not significant (Estimate = -.026; S.E. = .019; C.R = -1.324; P-value = .186). This implies that the demand for ambidexterity does not have a significant direct influence on well-being. Hypothesis H1 must therefore be rejected.

4.7.2 Moderating effects

Within the SEM analysis, moderating effects of the Big Five personality traits, team climate and the control variables age, gender, tenure, and line manager function were tested. Following Baron and Kenny (Baron & Kenny, 1986), three causal paths were included in the model for all potential moderators. The principle is illustrated in figure 29. Path a represents the influence of the independent variable, path b the direct influence of the moderator variable and path c the interaction or product of these two, which represents the moderating effect.

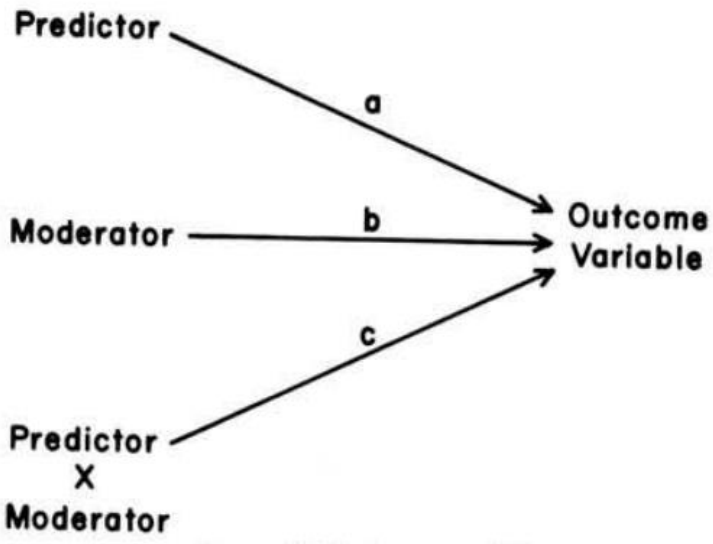


Figure 29: Moderator modell. Source: (Baron & Kenny, 1986)

According to Baron and Kenny (Baron & Kenny, 1986), a moderator effect is given if the interaction (path c) is significant. As shown in table 37, the interaction paths Ambidexterity x Extraversion (Estimate = .052; S.E. = .20; C.R. = 2.545; P-value = .011), Ambidexterity x Conscientiousness (Estimate = -.040; S.E. = .021; C.R. = -1.913; P-value = .056) and Ambidexterity x Negative Emotion (Estimate = -.055; S.E. = .022; C.R. = -2.525; P-value = .012) were found to be statistically significant. This implies that the personality traits extraversion, conscientiousness, and negative emotion actually have a moderating effect, as predicted in the research model. However, no such moderating effect was found for the personality traits agreeableness and open-mindedness as well as the four team climate dimensions.

The interaction effect of extraversion is illustrated in figure 30. As can be seen from the diagram, extraversion positively moderates the impact of the demand for ambidexterity on psychological well-being. In other words, the effect of the demand for ambidexterity on psychological well-being is more positive for employees who are highly extraverted than for employees who are less extraverted.

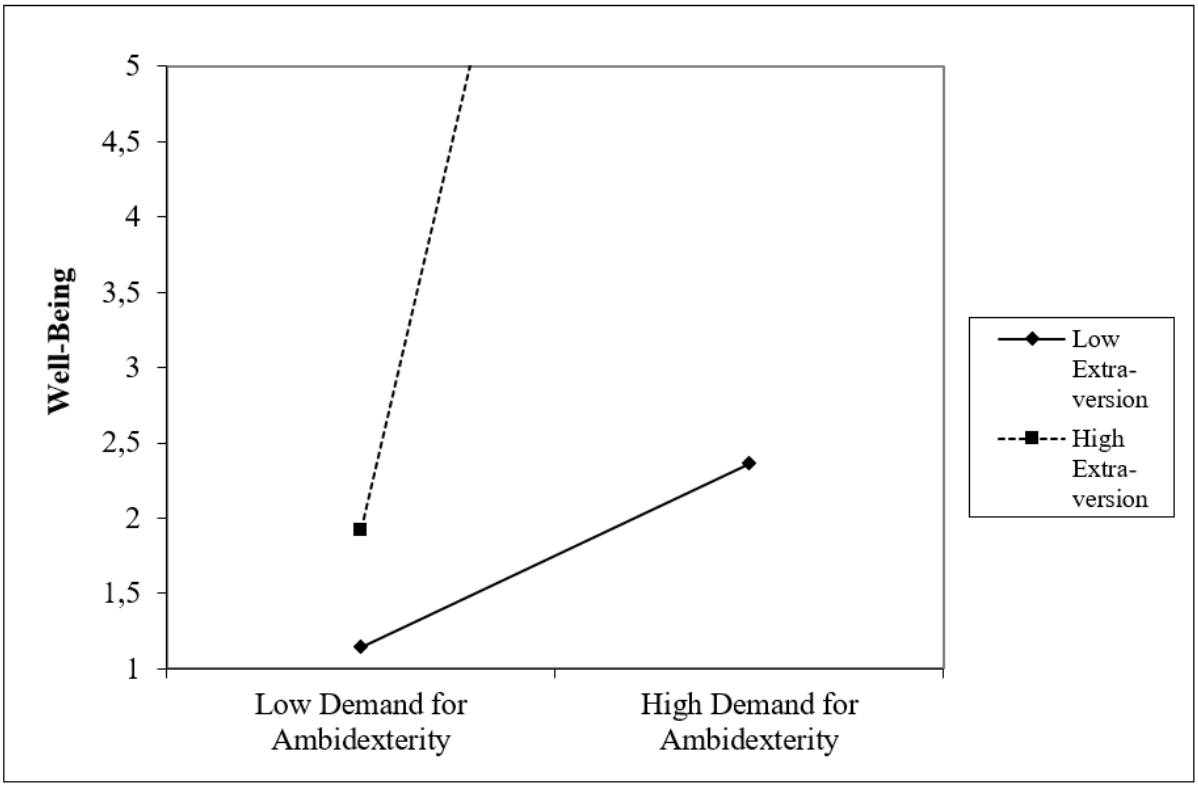


Figure 30: Interaction effect of extraversion

Figure 31 shows that conscientiousness negatively moderates the impact of the demand for ambidexterity on the psychological well-being. This implies that the demand for ambidexterity has a more negative impact on psychological well-being for highly conscientious employees than for less conscientious employees. This result is in accordance with hypothesis H3, which predicted such a negative moderation effect.

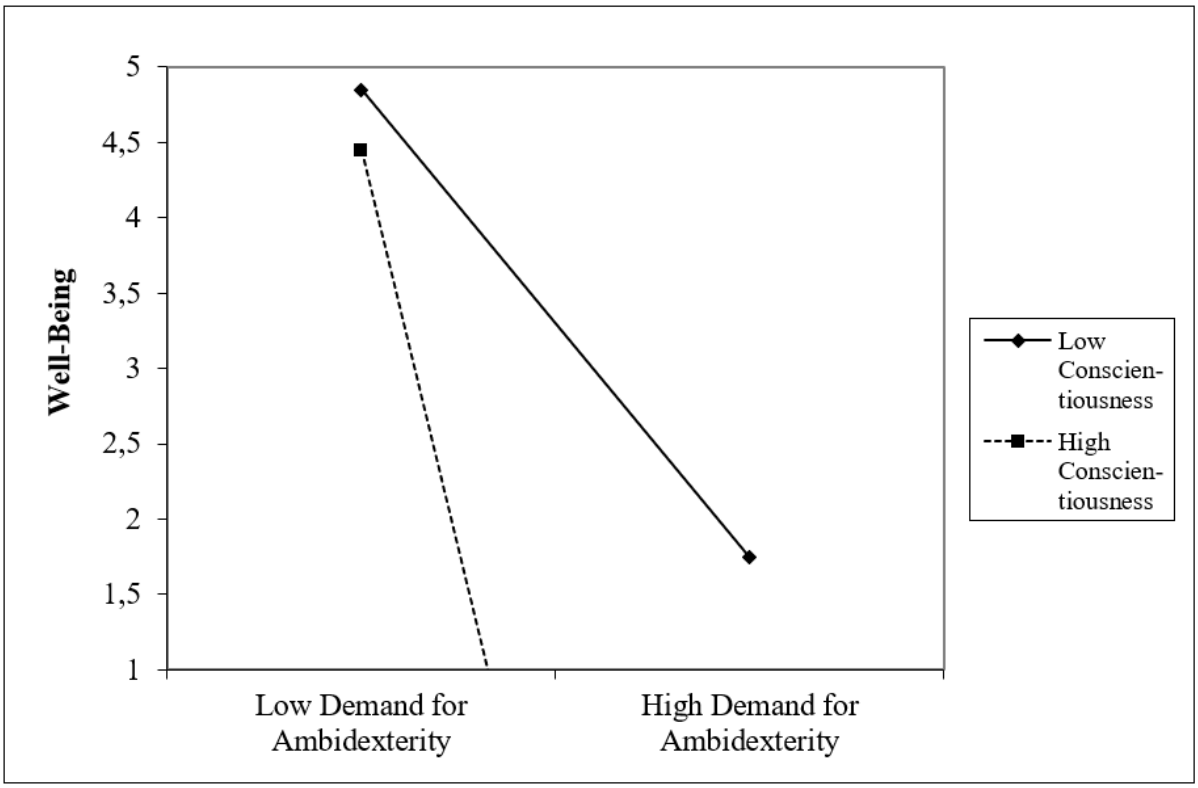


Figure 31: Interaction effect of conscientiousness

Finally, in figure 32, the interaction effect of the personality trait negative emotion is shown. As can be seen from the diagram, negative emotion moderates the impact of the demand for ambidexterity on psychological well-being also negatively. The impact of the demand for ambidexterity on psychological well-being becomes significantly more negative for employees who display a high level of negative emotion than for employees who have a lower presence of this personality factor.

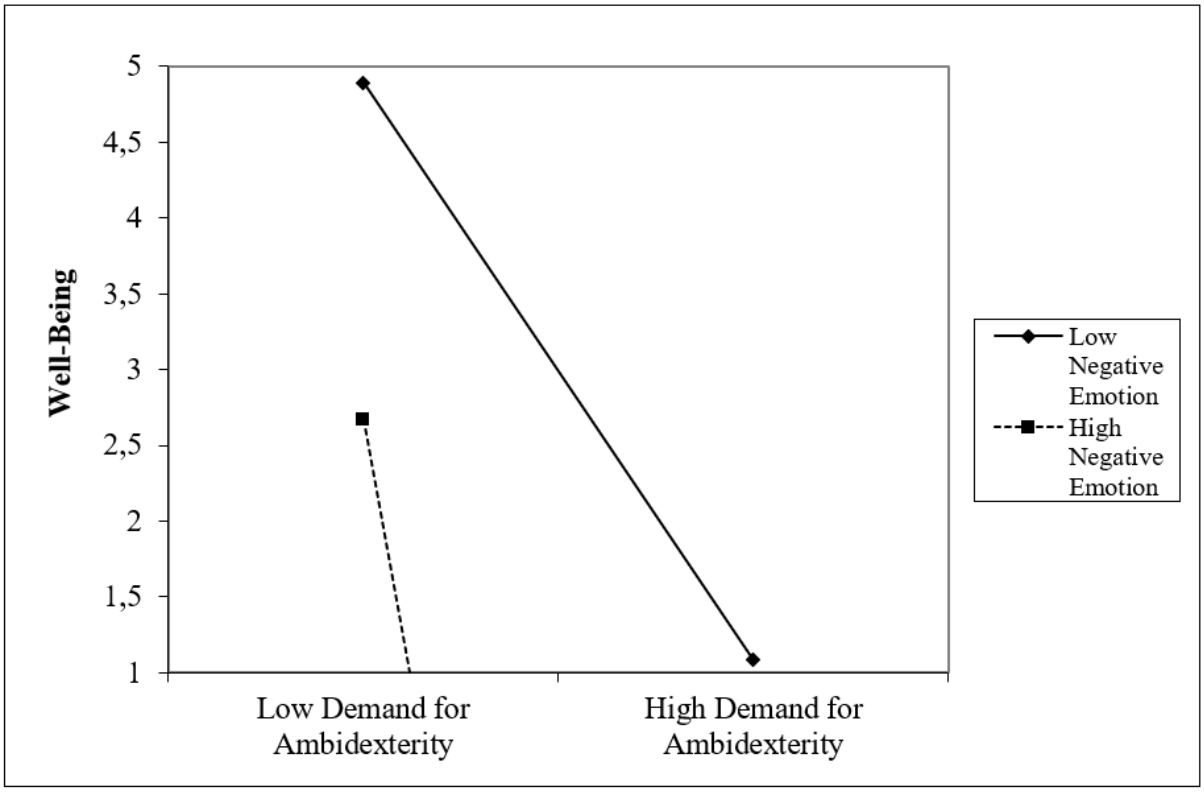


Figure 32: Interaction effect of negative emotion

4.7.3 Direct effects

In this research, the focus was on the moderating effects of the Big Five personality factors and the team climate. However, several significant direct effects on psychological well-being were observed as secondary findings. The direct effects of the personality traits extraversion (Estimate = .091; S.E. = .021; C.R = 4.410; P-value = .000) and negative emotion (Estimate = .141; S.E. = .027; C.R = 5.157; P-value = .000), the team climate dimensions support for innovation (Estimate = .091; S.E. = .021; C.R = 4.410; P-value = .000) and vision (Estimate = .262; S.E. = .023; C.R = 11.252; P-value = .000), and the control variable managerial function (Estimate = .185; S.E. = .049; C.R = 3.771; P-value = .000) were highly significant. While a positive influence on psychological well-being was found for extraversion, support for innovation, vision and managerial function, the personality factor of negative emotion showed a strong negative influence on psychological well-being.

5. Results

Based on the findings of previous research, this dissertation was guided by the hypothesis that the demand for ambidexterity can negatively impact the well-being of employees, especially when organisational and personal conditions that foster ambidexterity are non-existent or deficient. Concretely, it was examined whether and to what extent the Big Five personality traits and organisational climate moderate the impact of the demand for ambidexterity on employee well-being.

This section discusses the findings from the investigations on these hypotheses. First, the results from the investigations of the direct effect of the demand for ambidexterity on psychological well-being are discussed. This is followed by a discussion of the moderating influences of personality and team climate that have been found. Finally, direct influencing factors on psychological well-being identified within this research are discussed.

5.1 Direct impact of the demand for ambidexterity on well-being

Researchers from different disciplines have found indications in their respective research fields of a possible negative impact of the demand for ambidexterity on employee psychological well-being. For example, using functional magnetic resonance imaging (fMRI), neurologists discovered that exploration and exploitation involve different cognitive processes and that the constant switching between these processes - as required under ambidexterity - is cognitively demanding and thus potentially causes negative stress (Laureiro-Martínez et al., 2015). Social researchers have found indications that the demand for ambidexterity can potentially lead to cognitive tensions (Keller & Weibler, 2015), frustration and anger (Karhu, 2017), and role conflict (Bonesso et al., 2014). In contrast, work design researchers argue that the demand for ambidexterity should be seen as a form of work enrichment that increases employees' autonomy and motivation and thus may have a positive impact on their psychological well-being (T. J. M. Mom et al., 2018).

Specific research on the impact of the demand for ambidexterity on the psychological well-being of employees has been lacking until now. The absence of guidance from research has left employers in the dark about whether the design of ambidextrous jobs is useful or counterproductive in the long term. This research has addressed this research gap. Hypothesis H1 proposed that the demand for ambidexterity negatively influences the psychological well-being of employees. However, this hypothesis could not be confirmed. The analysis of the found no significant correlation between the demand for ambidexterity and the psychological well-being of employees. These results indicate that jobs that involve a high degree of exploration and exploitation at the same time do not pose a particular threat to employees, nor are they an effective means of enhancing employee motivation and satisfaction.

This finding may be unexpected given that the results of previous research, found a positive correlation between individual ambidexterity and different types of stress (Gabler et al., 2017; Keller & Weibler, 2015; Laureiro-Martínez et al., 2010, 2015). However, the present study suggests that any stress does not negatively affect the psychological well-being of employees. This finding represents a major step forward in research on the effects of the demand for ambidexterity on employees. The result suggests that employees do not necessarily perceive the stress caused by the demand for ambidexterity as negative and thus do not necessarily experience a negative impact on their psychological well-being. This theory is supported by the findings from Lazarus' stress theory, who argue that it is not the objective situation that determines the stress reaction, but the subjective evaluation by the person affected (Lazarus, 1966). It further supports the findings of Karhu (2017), who observed that some managers perceived the tension caused by ambidexterity as negative, while others perceived it as positive. The result of the present research also supports the findings of Zhang, Wei and Van Horne (Zhang et al., 2019), who came to the conclusion in their research that the employee's ability to deal with the stress induced by ambidexterity is an important prerequisite for the fruitful application of individual ambidexterity. To conclude, this research has identified the missing link between the stress potentially induced by the demand for ambidexterity and its impact on the psychological well-being of the employee as the perception of and ability to deal with this stress. To put it in Carroll's words, this research comes to the conclusion that *"Stress, like beauty, lies in the eyes of the beholder"* (Carroll, 1992, p. 5).

Previous research has identified various influencing factors and strategies regarding the appraisal and coping with stress. The work of Lazarus (2006), which was already discussed in the literature review of this dissertation, was seminal in this regard. Lazarus' transactional stress model considers stress as a product of a transaction between a person and his or her complex environment. According to this model, the appraisal of the stressor influences which coping strategy the person chooses and the availability of the corresponding coping resources ultimately determines the stress response with its short- and long-term outcomes. Lazarus distinguishes between the two basic strategies of problem-oriented and emotion-oriented coping. Problem-oriented coping involves changing the objective external situation. Emotion-oriented coping, on the other hand, involves the person changing his or her thoughts and feelings regarding the stressful event. In terms of the stressor of the demand for ambidexterity, a problem-oriented coping strategy could be that the employee evades the demand, in other words, engages mainly in exploitative or explorative activities. An emotion-oriented coping strategy could be that the employee considers the demand for ambidexterity as a positive challenge and may even perceive synergies between exploitation and exploration. From the perspective of paradox theory, a so-called paradox mindset will contribute to recognising such positive synergies (Papachroni et al., 2015; Schad et al., 2016). A paradox mindset is thereby defined as *"the extent to which one is accepting of and energized by tensions"* (Miron-Spektor et al., 2018a, p. 27).

In addition to these coping strategies, previous research has identified several factors that influence the evaluation of stressors. One of these factors is the level of education. As research has shown,

people in countries with high levels of education generally experience lower levels of work stress than those in countries with low levels of education (Lunau et al., 2015). The survey for the present research was conducted in Switzerland, a country with one of the highest educational standards in the world (Fuentes, 2011). Thus, the high standard of education of the middle managers surveyed may have contributed to their ability to cope with stress and therefore did in general not experience a negative impact on their psychological well-being because of the demand for ambidexterity. Another factor identified in previous research that influences the appraisal of a stressor is personality traits. These were explicitly examined in the present research and are discussed in the following.

5.2 Moderating effect of personality traits

Earlier research around Lazarus' transactional stress model had already noted that the appraisal and coping with stressors is dependent on certain personality characteristics (Folkman et al., 1986; Lazarus et al., 1957). The broad establishment of the five-factor model as a unifying framework of personality traits in the 1990s had strongly stimulated research on the effects of personality on stress (Vollrath, 2001). In the following two decades, numerous studies were conducted that examined the relationship of each of the five personality factors with work-related stress (Barr, 2018; Carver & Connor-Smith, 2010; Shewchuk et al., 1999; Vollrath & Torgersen, 2000). The extensive research had led, for example, to a broad consensus that highly neurotic people are generally more likely to appraise situations as stressful, are generally less capable of coping with stress and are also more prone to the negative long-term effects of stress (Hampson, 2013; Vollrath, 2001; Zellars et al., 2000). The correlations with the other four personality factors or combinations of them are less clear, but there is consensus in research that other personality factors besides neuroticism have an influence on the appraisal, coping and outcomes of stress (Vollrath, 2001).

Also in the research stream of individual ambidexterity that has emerged in the last decade, initial studies have already been conducted examining the role of personality traits in achieving individual ambidexterity (Keller & Weibler, 2014; Zacher et al., 2016). However, research in this area is still in its infancy and mostly draws on findings from research areas such as innovation or creativity, which are concepts closely related to individual ambidexterity (Andriopoulos & Lewis, 2009; March, 1991; Rosing, Frese, & Bausch, 2011; Schad, Lewis, Raisch, & Smith, 2016; Tushman & O'Reilly, 1996).

The hypotheses raised in the present research about the moderating influences of the five personality traits are based on findings from stress research as well as from research areas such as ambidexterity, innovation, and creativity. The present study contributes to the so far much neglected research on the role of personality traits in the theory of how individuals deal with the demand for ambidexterity. The moderating effects found for the five personality factors on the impact of the demand for ambidexterity on employee well-being are discussed in the following.

5.2.1 Openness to experience

Openness to experience and conscientiousness are probably the most frequently studied personality traits in ambidexterity research (Keller & Weibler, 2015). Several studies in the field of individual ambidexterity (Keller & Weibler, 2014; Zacher et al., 2016) as well as in the related research fields of innovation and creativity (Andriopoulos & Lewis, 2009; Rosing et al., 2011; Schad et al., 2016) have identified openness to experience as the most important predictor of explorative behaviour and conscientiousness as the most important predictor of exploitative behaviour. Due to their ambidexterity-promoting effect, these two personality factors were also hypothesised to have strong moderator effects. Hypothesis H2 therefore proposed that openness to experience would positively moderate the impact of the demand for ambidexterity on employee well-being. However, in the SEM analysis, no such moderating effect could be found.

The observation of Keller and Weibler (2015), who found a negative moderating effect of managers' openness to experience on the impact of ambidexterity on cognitive strain, could therefore not be confirmed with the result from the present study. Furthermore, the underlying assumption of hypothesis H2, that people who are highly open to experience will cope better with the demand for ambidexterity and thus experience less negative impact on psychological well-being, could not be confirmed either. This assumption was based on observations from previous research indicating that people who are highly open to experience tend to engage in divergent thinking and handle the constant alternation between exploration and exploitation better than people who score lower on this personality trait (George & Zhou, 2001; Keller, 2012; McCrae, 1996). The expectation of a positive moderating effect of openness to experience was further based on findings from previous research indicating that this personality trait is associated with higher resilience and a weaker response to stress (Schneider et al., 2012; Williams et al., 2009; Xin et al., 2017).

However, it is important to note that the present research assessed psychological well-being and not subjective stress, as previous studies did. This implies that, although the demand for ambidexterity according to the findings of previous studies may lead to stress, this stress does not necessarily manifest in a negative impact on psychological well-being. Therefore, the lack of evidence of the effect of openness to experience in this research does not contrast with previous studies, but is rather due to the fact that well-being, not subjective stress, was measured and that these constructs are not equidirectional.

5.2.2 Conscientiousness

As mentioned above, conscientiousness is known for its conducive influence on exploitative work behaviour (Keller & Weibler, 2014; Zacher et al., 2016). In addition, it is also known from previous research that while conscientiousness fosters performance, it also increases employees' stress

reactions and promotes emotional exhaustion and burnout (Abbas & Raja, 2019; Anvari et al., 2011; Lin et al., 2015). Based on these findings, Hypothesis H3 predicted a negative moderating effect of conscientiousness on the impact of the demand for ambidexterity on employee well-being. Indeed, a significant negative moderator effect of conscientiousness was observed in this research. This implies that the demand for ambidexterity has a more negative impact on psychological well-being for highly conscientious employees than for less conscientious employees. This result is in line with the findings of Keller and Weibler (2015) showing that conscientiousness strengthens the positive relationship between ambidexterity and cognitive strain.

Many decades of occupational research have resulted in the evidence that conscientiousness is the most important predictor of job performance (Lin et al., 2015). It is therefore not surprising that conscientiousness is the most desired personality trait by employers in the context of employee recruitment and talent management (Wilmot & Ones, 2019). However, employers should consider that highly conscientious employees tend to respond more sensitively to stress and as a result may experience a negative impact on their psychological well-being (Abbas & Raja, 2019; Anvari et al., 2011). Previous research indicates that the demand for ambidexterity places high demands on the employee, which can lead to cognitive strain and stress (Bonesso et al., 2014; Sok et al., 2016; Tempelaar & Rosenkranz, 2017). Therefore, it may not be the best idea to select the most conscientious employees for the most ambidextrous jobs.

In addition to their preference for exploitative tasks (Keller & Weibler, 2014), highly conscientious employees have a high motivation for goal-oriented performance and prefer more predictable environments (Wilmot & Ones, 2019). Employers are therefore probably well advised to give preference to very conscientious employees in jobs that involve mostly exploitative tasks. There is a good chance that these employees will be highly productive and thus bring long-term benefits to the organisation (Barrick et al., 1993).

5.2.3 Neuroticism

A highly significant moderating effect as well as a highly significant direct effect were further found for the personality trait neuroticism. Hypothesis H4, which predicted a negative moderating effect of neuroticism on the impact of the demand for ambidexterity on employee well-being, is therefore supported too.

Previous research has found a strong correlation of neuroticism with the construct of negative affect (Diener et al., 1999). Negative affect, in turn, is a central component of poor psychological well-being (Larsen, 2009). However, there is broad consensus in literature that neuroticism is not only the most important negative predictor of well-being, but also of happiness and quality of life (Steel et al., 2008). Furthermore, neurotic persons are known to be vulnerable to stress (Costa & McCrae, 2008; Vollrath,

2001). Moreover, a negative influence of neuroticism on creativity and innovation is known in literature (Memarzadeh Tehran & Khaledi, 2014). Creativity and innovation are central characteristics of explorative work behaviour (March, 1991). The inhibiting influence of neuroticism on exploitation is thus also likely to have an inhibiting effect on the achievement of ambidexterity. As Keller (2012) suggests, high levels of neuroticism could lead to employee risk aversion, which has a blocking effect on exploratory work behaviour. In summary, the strong negative moderator effect of neuroticism found in the present research is absolutely consistent with the findings from theory that neuroticism has a negative effect on psychological well-being and individual ambidexterity.

Against this background, it is not surprising that not only a strong moderator effect but also a strong direct effect has been found for neuroticism in the present research. The direct effect will be discussed in section 5.4.

5.2.4 Extraversion

Extraversion is broadly recognised in literature as the antagonist of neuroticism (Tellegen & Waller, 2008). While neuroticism as discussed above strongly correlates with the construct of negative affect, there is an equally strong correlation of extraversion with positive affect (Steel et al., 2008). It is therefore not surprising that while the present research found a strong negative moderating effect and direct effect for neuroticism, corresponding positive effects were found for extraversion. Hypothesis H6, which predicted that extraversion would have a positive moderating effect on the impact of the demand for ambidexterity on employee well-being, is thus supported as well. The identified direct effect of extraversion on employees' psychological well-being is discussed in section 5.4.

Previous studies have found a significant negative correlation between extraversion and occupational stress (Desa et al., 2014). This observation might be attributed to the tendency of extraverts to reappraise problems positively and to perceive high work demands rather as welcome challenges (A. B. Bakker et al., 2014). Under this consideration, it is perfectly plausible that extroverts experience a positive impact on their well-being from the demand for ambidexterity because they evaluate this challenge positively. With regard to extroverted employees, the findings of this research thus support the suggestion of work design researchers that the demand for ambidexterity should be seen as a form of work enrichment which increases employees' autonomy and motivation and thus has a positive impact on their affective psychological well-being (T. J. M. Mom et al., 2018).

This suggests that by enriching the jobs of extroverted employees with exploitative as well as explorative tasks, employers can contribute to increasing their psychological well-being, their motivation and ultimately their work performance.

5.2.5 Agreeableness

Neither a significant moderating nor direct effect was found for the personality trait of agreeableness in this research. Some previous studies found a direct positive effect of agreeableness on psychological well-being (Huppert & Johnson, 2010; Schultz & Schultz, 2016). McCrae and Costa (1991) found in their study that a high level of agreeableness increases positive affect and decreases negative affect, but did not find evidence of the expected positive effect on well-being. In general, it can be concluded from previous research that the influence of agreeableness on well-being is less prominent than the influences of the other four personality factors (Costa, 1983; Grant et al., 2009). No significant direct and moderating effect of agreeableness on psychological well-being was found in the present research. This may be due to this generally known weaker effect of agreeableness on psychological well-being on the one hand, and the adoption of a research model that takes into account a broader range of variables on the other.

Although the five-factor model of personality is basically applied to any culture, there are certain differences in terms of social desirability and the relative importance of the individual personality traits (Schultz & Schultz, 2016). For example, Europeans and Americans tend to score lower on agreeableness than Asians and Africans (Allik & Mccrae, 2004).

5.3 Moderating effect of team climate

Hypotheses H7 to H10 predicted positive moderating effects of the four dimensions of team climate on the impact of the demand for ambidexterity on employee psychological well-being. These hypotheses were based on the findings of previous research that a supportive team climate is conducive to individual ambidexterity (C. Gibson & Birkinshaw, 2004; C. L. Wang & Rafiq, 2014) as well as reduces stress reactions and promotes well-being (Dackert, 2010). It was therefore a natural assumption that such a team climate might also positively influence the impact of the demand for ambidexterity on psychological well-being by reducing the potential stress caused by this demanding work requirement. However, for none of the four dimensions of team climate, which are vision, participative safety, task orientation and support for innovation, were such moderator effects found in this research. Hypotheses H7 to H10 must therefore be rejected.

It would be reasonable to suspect a potential reason for the unobserved moderation effect in the complexity of the SEM model employed in this research. In order to rule out such analytical technical reasons, the moderator effects of the four team climate dimensions were also examined in isolation, excluding the personality factors and the control variables. However, the results of this isolated investigation were consistent with the analysis results of the entire research model. Again, no moderator effects of the team climate dimensions were found.

5.4 Direct influencing factors on well-being

Apart from the impact of the demand for ambidexterity, the direct influencing factors on the psychological well-being of middle managers were not the focus of the present research. However, several significant such direct influencing factors were identified as secondary findings in the SEM analyses, which are briefly discussed in the following.

To start with the direct influence of personality on psychological well-being, with neuroticism and extraversion two highly significant influencing factors were identified. This observation is consistent with the existing literature. As discussed above, the two personality traits neuroticism and extraversion are considered in literature to be the most important predictors of subjective well-being (Costa & McCrae, 1980). Several studies found a significant overlap between these two personality factors with negative and positive affect, respectively, which are two of the three dimensions of subjective well-being (Steel et al., 2008). Tellegen and Waller (2008) have even gone so far as to suggest that neuroticism should be renamed negative affect and extraversion positive affect.

Neuroticism is thereby clearly seen as the stronger predictor of subjective well-being than Extraversion (Steel et al., 2008). For example, Vittersø and Nilsen (Vittersø & Nilsen, 2002) found that neuroticism explained about eight times as much of the variance in subjective well-being than extraversion. These observations are consistent with the results of the present research, which found a signifikant positive influence of extraversion and a five times stronger negative influence of neuroticism on psychological well-being.

While there were no moderator effects of team climate, strong direct effects on employee psychological well-being were found from the two team climate dimensions of vision and support for innovation. This result is in line with findings from previous research. Several studies from different industries have shown that team climate can have a significant positive impact on psychological well-being as well as reduce work strain and burnout (Bahrami et al., 2013; Dackert, 2010; Glisson & James, 2002; Idris et al., 2014; Mafini, 2016). It may seem obvious that employees feel more comfortable in a pleasant working environment and thus experience a positive impact on their psychological well-being.

Less obvious may be the further direct effect found, which is that of leadership role. Being a line manager had a significant positive impact on employees' psychological well-being. In fact, this finding is consistent with previous research. For example, Skakon and colleagues (2011) found that managers experience significantly less emotional stress than non-managers, despite the higher demands placed on them. This finding was confirmed in later research (Lundqvist et al., 2013; Peter et al., 2020). Furthermore, Nyberg, Leineweber and Magnusson Hanson (2015) found that managers are generally more satisfied with their work and life and are less likely to take sick leave than non-managers.

Researchers attribute this phenomenon to the observation that managers often have a higher degree of influence and control, as well as a more positive perception of the importance of work and working conditions in general than their peers without a managerial function (Lundqvist et al., 2013; Peter et al., 2020). Another explanation for the greater psychological well-being of managers could be the career growth experienced by employees with a management function. Previous research has found positive influences of career growth opportunities (Huang et al., 2017), proactive career behaviour (Rahim & Siti-Rohaida, 2016) and subjective career experience (Hall & Heras, 2012) on psychological well-being.

6. Discussion

This chapter provides a summary of the present research and its contributions and implications. The chapter begins with an outline of the context and aims of the research. This is followed by a description of how the four main objectives were addressed and what results were achieved. Next, the implications of the findings for theory and practice are discussed. This is followed by a discussion of the limitations of this research. Furthermore, suggestions for further research are provided. The chapter ends with a personal reflection on this research.

6.1 Context, background and aim of the research

The present research is concerned with a contemporary management concept and specifically addresses a question controversially discussed in practice and theory. Competitive companies are increasingly demanding ambidexterity from their employees, the ability to flexibly switch between exploitation (routine work, efficiency, quality) and exploration (creativity, creation of innovative knowledge) (Holmqvist & Spicer, 2012; Miron-Spektor et al., 2018b). While companies have long addressed this challenge with the approach of sequential ambidexterity, where exploitation and exploration are separated temporally (Duncan, 1976), or with structural ambidexterity, where exploitation and exploration are separated organisationally (Tushman & O'Reilly, 1996), in the last decade the approach of contextual ambidexterity, where the individual employee decides how to divide his or her time between exploitative and explorative activities (Birkinshaw & Gibson, 2004), has become prevalent.

Researchers and practitioners nowadays agree that individuals play a crucial role in achieving organisational ambidexterity (Birkinshaw & Gupta, 2013; Good & Michel, 2013). Therefore, much research has been done in the last decade on how companies can encourage their employees to become ambidextrous and how they can systematically promote individual ambidexterity (C. Gibson & Birkinshaw, 2004). However, while literature on individual ambidexterity and its antecedents has grown considerably over the past decade, the potential impacts on the psychological well-being of individuals forced to ambidexterity remain largely unexplored (Agnihotri et al., 2017; Caniëls & Veld, 2016; Holmqvist & Spicer, 2012; Tempelaar & Rosenkranz, 2017; Turner et al., 2013) leaving employers in the dark about the potential consequences of introducing ambidextrous workplaces for the psychological well-being of their employees. This is a major deficit, since employee well-being is an important indicator of individual and organisational performance (Soh et al., 2016). Numerous empirical studies have shown the strong influence of psychological well-being on work performance and job satisfaction (Uncu et al., 2007).

The open question regarding the impact of the demand for ambidexterity on the psychological well-being of employees represents a significant research gap. This shortcoming in individual ambidexterity

theory had been known for some time and several authors had already called for relevant research (Keller & Weibler, 2015; Raiden & Räisänen, 2018). The present research has followed this call by adopting the following aim:

> To investigate the impact of the demand for ambidexterity on middle managers' psychological well-being and, as further aims, to investigate whether and to what extent the Big Five personality traits and the perceived team climate moderate the relationship between the demand for ambidexterity and middle managers' psychological well-being.

6.2 Research objectives

Within an iterative process, the philosophical perspective and the research approach to investigate the research question were chosen and the objectives of the research were refined (Hallebone & Priest, 2008). A post-positivist lens was selected. As typical for this philosophical stance, a quantitative approach was employed with an online survey for data collection. The following research objectives have been defined:

1) Through review of the literature, build a model of the impact of the demand for ambidexterity on employee wellbeing and the moderating effects of the Big Five personality traits and team climate.
2) To develop, pilot and implement a questionnaire to collect data to enable testing of the model.
3) To analyse the data collected using the questionnaire to test the hypotheses using structural equation modelling.
4) To formulate a theoretical conclusion from the findings and to make recommendations for practice.

The following four sections discuss how each of these research objectives has been addressed and what results have been achieved.

6.2.1 Development of the theoretical framework and the research model

As the comprehensive literature review has revealed, researchers have very contrasting ideas about the potential impact of the demand for ambidexterity on employee psychological wellbeing. Job design researchers consider the demand for individual ambidexterity as a form of job enrichment that

increases employee autonomy and motivation. (T. J. M. Mom et al., 2018). From this perspective, the demand for ambidexterity may be expected to have a positive impact on an individual's psychological well-being. However, in literature there are also signs of warning of possible negative effects for the employee and thus also for the organisation. In general, researchers agree that ambidexterity at the individual level requires the ability to deal with contradictions, which places high demands on the employee (Bonesso et al., 2014; Sok et al., 2016; Tempelaar & Rosenkranz, 2017). It is known from neurological research that exploitation and exploration involve completely different cognitive processes and that the constant switching between these processes potentially causes negative stress (Laureiro-Martínez et al., 2015). Furthermore, social researchers have found that the demand for ambidexterity can potentially lead to cognitive tensions (Keller & Weibler, 2015), frustration and anger (Karhu, 2017) and role conflict (Bonesso et al., 2014). These findings from previous studies have led the present research to the guiding hypothesis that the demand for ambidexterity has a negative effect on the employee's psychological well-being.

As the literature review has further revealed, previous research, which has largely focused on the promotion of individual ambidexterity, has found indications that a number of personal (Keller & Weibler, 2014; Lowik et al., 2016) and organisational factors (C. Gibson & Birkinshaw, 2004; C. L. Wang & Rafiq, 2014) may influence an individual's level of ambidexterity. In the course of theory development for the present research, these personal factors were conceptualised as Big Five personality traits and the organisational factors as team climate. Big Five personality traits are also known as important predictors of various aspects of subjective well-being (Afshar et al., 2015; Deneve & Cooper, 1998; R. E. Lucas & Diener, 2009; Vollrath & Torgersen, 2000). It is further known that team climate has a significant impact on employees' psychological well-being (Cheng et al., 2013; Dackert, 2010; Mafini, 2016; Paulin & Griffin, 2016; Rose & Schelewa-Davies, 1997). This research has therefore hypothesised that the negative impact of the demand for ambidexterity on the psychological well-being of the employee is influenced by personality and team climate, in other words, they have a moderating effect.

Based on the theoretical foundations discussed above and the hypotheses derived from them, a research model was developed with the demand for ambidexterity as the independent variable, psychological well-being as the dependent variable and the Big Five personality traits as well as the four dimensions of team climate as moderators. Gender, age, tenure, educational level, functional area, and hierarchical level were included as control variables. The resulting research model presented in figure 6 was discussed thoroughly in section 2.7.

6.2.2 Development of the research instrument

The constructs under investigation according to the research model were operationalised using existing measurement instruments that had been sufficiently validated in previous studies. The resulting English questionnaire comprises 79 items with an additional conditional question.

Swiss Post served as the research site for this study. With over 58,000 employees from 138 countries working in over one hundred different professions, Swiss Post is one of the largest Swiss employers and features a high level of professional and cultural diversity. Four national languages are officially spoken in Switzerland. Communication within Swiss Post is practically all in German and French. The survey instrument therefore had to be translated into these two languages. This was done using a strict version of the back-translation approach. The language versions have undergone a three-round pre-test as well as a comprehensive pilot test with 99 participants under the real conditions of the later large-scale field study.

The survey was conducted online using Swiss Post's internal survey tool. A total of 3,454 middle managers of the executive units PostMail, PostalNetwork, PostLogistics and the support division were invited to participate in the online survey. 1,658 of the invited middle managers completed the online survey in full, which corresponds to a response rate of 48.0 %. After data screening and cleaning, 1,657 cases remained that were used for the actual data analysis. The German- and French-speaking participants represented the fourteen major occupational groups of Swiss Post. These include, for example, finance/controlling, information technology, logistics/production, human resources, and sales. Their age ranged from under 24 to over 60 years. The proportion of men was 58.5% and that of women 40.4%. 1.1% of the respondents did not want to make a statement about their gender or did not want to assign themselves to a particular gender. The educational level of the participants varied from compulsory school to doctorate.

6.2.3 Analysing the survey data

Structural equation modelling (SEM) was applied to investigate the research questions. The analysis found no significant direct effect of the demand for ambidexterity on employee psychological well-being. This finding suggests that contrary to fears expressed in the literature, the demand for ambidexterity in general does not pose a particular threat to employee well-being. However, the results also suggest that the demand for ambidexterity does not have a motivational effect or at least does not result in a positive influence on psychological well-being.

Furthermore, a significant negative moderating effect of the personality trait conscientiousness was found. This result is consistent with findings from previous research that identified a potential negative impact on the psychological well-being of highly conscientious employees due to their increased stress

reactions and their tendency to emotional exhaustion and burnout (Abbas & Raja, 2019; Anvari et al., 2011; Lin et al., 2015). Another significant negative moderating effect was found for the personality trait neuroticism. This finding is also consistent with existing literature which describes neuroticism as the most important negative predictor of well-being, happiness and quality of life, as well as exploration, a central component of ambidexterity (Keller, 2012; Larsen, 2009; Memarzadeh Tehran & Khaledi, 2014; Steel et al., 2008). Finally, a significant positive moderating effect of extraversion was found. This observation is also consistent with previous research, which found that extraverts tend to evaluate problems positively and are more likely to see high work demands as welcome challenges (A. B. Bakker et al., 2014) and, possibly as a result, generally experience few occupational stress (Desa et al., 2014).

No moderation effects were found in this study for any of the four dimensions of team climate, which are vision, participatory safety, task orientation and support for innovation. While previous research has found a supportive team climate to be conducive to individual ambidexterity, the results of the present study suggest that the effects on employees' psychological well-being from the demand for ambidexterity is not influenced by the team climate. This finding is of course not intended to suggest employers pay no attention to team climate. Rather, it should inform that personnel selection is the key to the long-term beneficial introduction of contextual ambidexterity.

6.2.4 Formulating recommendations for theory and practice

The present research was guided by the question of the possible impact of the demand for ambidexterity on employees' psychological well-being. The results have shown that the demand for ambidexterity per se has no negative impact on the psychological well-being of employees. The suggestions from work design theory to consider individual ambidexterity as a motivating form of work enrichment can therefore not be supported. Also, the suggestions from researchers of different fields that the demand for individual ambidexterity could cause stress and thus have a negative impact on the well-being of employees cannot be supported. The present research has further found that the Big Five personality traits influence the impact of the demand for ambidexterity on employees' psychological well-being. Specifically, a positive moderating effect of extraversion and a negative moderating effect of conscientiousness and neuroticism were found. With these findings, the present research has made an important contribution to filling a significant research gap.

Based on the results of this research, also recommendations for practice were formulated. In conclusion, the results of this research should reassure employers that they are not exposing their employees to unjustifiable risk by introducing ambidextrous jobs. However, employers should also be informed that requiring ambidexterity does not appear to be a viable means of promoting employee motivation and should therefore only be considered when there are clear organisational or economic

benefits associated with it. However, employers are also informed that demanding ambidexterity does not seem to be an appropriate means of enhancing the psychological well-being of their employees and should therefore only be considered if there is a clear organisational or economic benefit associated with it.

Psychological assessments based on the Five Factor Model of personality are a common tool in the personnel recruitment process (Salgado, 2017). This research enables employers to make better-informed decisions about appropriate job assignments based on the personality profiles identified by the personality assessments. As mentioned before, the present research concretely found the two personality traits of conscientiousness and neuroticism tending to have a negative impact on psychological well-being when ambidexterity is demanded, which in turn can have a negative impact on personal and organisational performance in the longer term (Rothmann, 2008). While conscientiousness, as the most important predictor of job performance (Lin et al., 2015), is in general a highly demanded personality factor in employee selection (Wilmot & Ones, 2019), based on these findings, caution is advised when assigning jobs that require a high degree of ambidexterity to highly conscientious employees. As previous research has shown and the present research has confirmed, highly conscientious employees tend to be more sensitive to the type of stress that can be caused by the demand for ambidexterity, which can have a negative impact on their psychological well-being and ultimately lead to longer-term negative effects on personal and organisational performance (Nikolaou & Foti, 2018b). An opposite effect was found for strongly extroverted employees. Extroversion demonstrated a positive impact of the demand for ambidexterity on employee psychological well-being. This means that highly extroverted employees can experience a positive impact on their psychological well-being in jobs that require a high degree of ambidexterity. The recommendations from theory to consciously design ambidextrous jobs in order to increase employee motivation and satisfaction (T. J. M. Mom et al., 2018) are thus supported by this study exclusively with regard to highly extroverted employees.

6.3 Research contributions

This section discusses the contributions this research makes to theory and practice. The section begins by outlining the implications for theory. The focus is on the theories employed in the present research, which have been discussed in section 2.1. Following this, the implications for practice are discussed. It is explained how managers and their organisations who already have ambidextrous workplaces or are planning to create such workplaces can apply the findings from the present research in their daily practice.

6.3.1 Implications for theory

The present research draws on a variety of theories and creates partly novel links between them. The theoretical context was discussed in detail in section 2.1 and is illustrated in figure 1. This research makes valuable contributions to several of these theories and links, which are highlighted in red in figure 33. The specific implications for each field of theory are discussed in detail in the following sections.

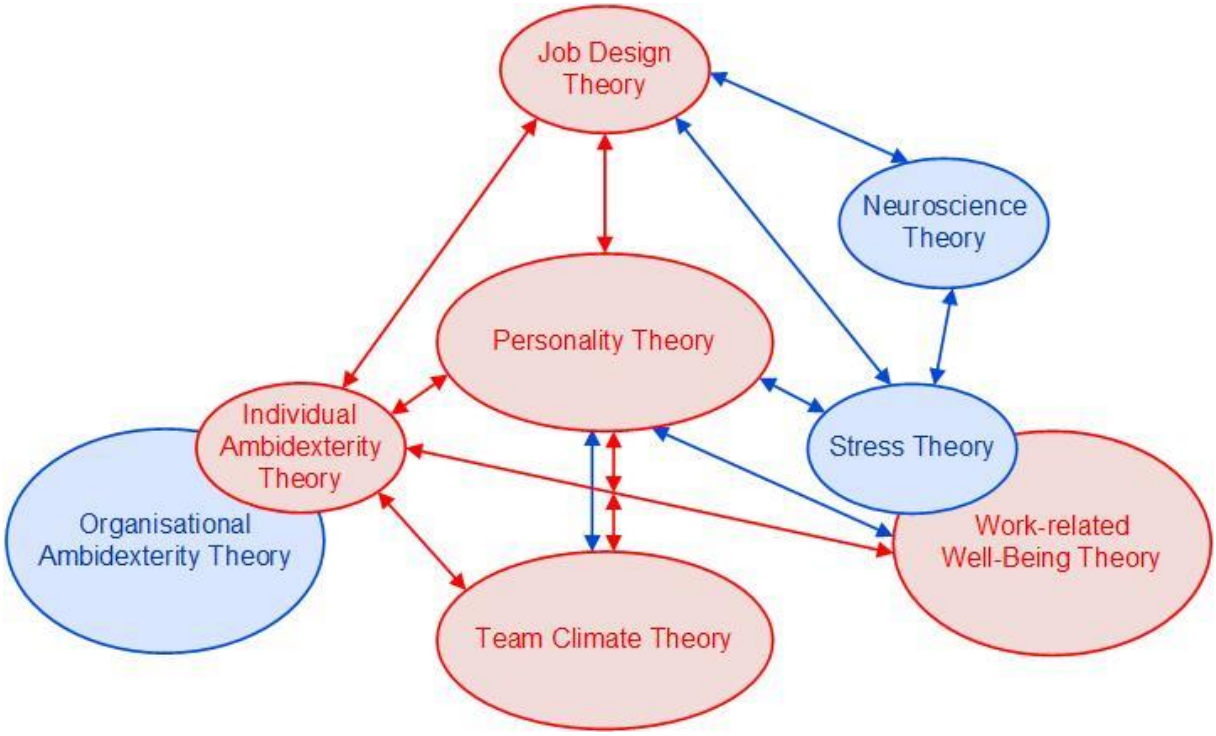


Figure 33: Theoretical contributions of the present research (in red)

6.3.1.1 Implications for individual ambidexterity theory

While research on individual ambidexterity has greatly advanced over the last decade, the question of the impact of the demand for ambidexterity on the employee has remained unaddressed until now. From a job design perspective, ambidexterity is seen as a valuable form of job enrichment that can increase employee creativity, innovation and motivation (Adler et al., 1999; T. J. M. Mom et al., 2018; Parker, 2014). However, in literature there are also signs of warning of possible negative effects for the employee and thus also for the organisation. Considering the fact that the employee must take on different roles at the same time and that ambidexterity is cognitively demanding, various types of potential stress have been identified (Agnihotri et al., 2017; Bonesso et al., 2014; Keller & Weibler, 2015; Laureiro-Martínez et al., 2010). Furthermore, it is assumed that the need to constantly reorient oneself when switching between exploitation and exploration tasks could lead to frustration and anger (Karhu, 2017).

By addressing the research question of what effects, the demand for ambidexterity has on the well-being of the employee - respectively the middle managers who are most confronted with this challenge - the present research contributes significantly to the closing of a considerable gap in the individual ambidexterity theory. Specifically, the present research has shown that the demand for ambidexterity in general does not pose a specific threat to the well-being of middle managers. These results suggest that the introduction of ambidextrous jobs in general may not be of ethical or economic concern. Moreover, it should strengthen the theory of individual ambidexterity and motivate further research.

However, the present research not only makes a significant contribution to individual ambidexterity theory by linking it to work-related well-being theory. But by examining the influence of personality and team climate, it also creates links to personality theory and team climate theory. This research found that the personality trait extraversion has a positive moderating effect, while the personality traits conscientiousness and neuroticism have negative moderating effects. No such moderating effects were found for team climate. These findings represent an important advance in individual ambidexterity theory. They suggest that team climate is less important for achieving long-term organisational benefits through the promotion of individual ambidexterity than the personality profiles of employees. This finding is of equal relevance to theory and practice. It implies that in order to achieve individual ambidexterity, greater emphasis should be placed on employee selection than on interventions to promote team climate.

6.3.1.2 Implications for work-related well-being theory

It can be concluded that although considerable amount of research has been done on how to encourage employees to become ambidextrous, the impact on their well-being has remained virtually unexplored until now. This is a major deficit, since employee well-being is known to be an important predictor of individual and organisational performance, affecting factors such as productivity and job satisfaction (Wright et al., 2007) as well as absenteeism and turnover (Maslach et al., 2001). Although this serious research gap is long known and had already led Keller and Weibler (2015) as well as Raiden and Räisänen (Raiden & Räisänen, 2018) to call for research on the impact of the demand for ambidexterity on employee wellbeing, the present research is, to the author's best knowledge, the first study that directly addresses this question. Therefore, the present research makes an important contribution to the closing of a fundamental research gap.

The research question was examined in a broad-based study of Swiss Post middle managers in administrative jobs. The investigation of the 1,657 responses indicates that jobs that simultaneously involve high levels of exploration and exploitation are neither a particular threat to middle managers nor an effective means of increasing employee motivation and satisfaction. Based on these results, the suggestions from work design theory that individual ambidexterity should be seen as a motivating form of work enrichment cannot be supported. Neither can the concerns from other fields of research,

such as neurology and organisational theory, that the demand for individual ambidexterity could cause stress and thus have a negative impact on middle managers' well-being, be supported. The finding that the demand for ambidexterity per se does not have a negative impact on middle managers' psychological well-being represents a major advance in work-related well-being theory and its link to individual ambidexterity theory. These theoretical contributions are with the findings from stress theory, according to which it is not the objective situation that determines the stress response, but the subjective evaluation by the affected person (Lazarus, 1966).

6.3.1.3 Implications for personality theory

By examining the role of the Big Five personality traits in the impact of the demand for ambidexterity on the psychological well-being of middle managers, this research further contributes to personality theory. Previous individual ambidexterity research had focused exclusively on the influence of the personality traits openness to experience and conscientiousness on individuals' ambidexterity behaviour (Keller & Weibler, 2014; Zacher et al., 2016). As has emerged from this research stream, conscientiousness fosters exploitative work behaviour, while openness to experience fosters explorative work behaviour. The present research has taken a different perspective on personality factors, considering them not as promoters of ambidexterity but as moderators of the impact of the demand for ambidexterity on psychological well-being.

In this regard, extraversion was shown to have a positive moderating effect, while conscientiousness and neuroticism were found to be negative moderators. While previous theory has only provided initial ideas about the possible role of the personality factors conscientiousness and openness to experience on individual ambidexterity, the present research was the first to investigate the role of personality as a whole. In this vein, on the one hand, a previously non-existent link between personality and ambidexterity theory has been established and, on the other hand, a significant contribution to the theory of personality has been made. The present research has found that extraversion is an important personal trait for achieving long-term beneficial individual ambidexterity by positively moderating the influence of the demand for ambidexterity on psychological well-being. The opposite was found for the personality trait neurocitism. Furthermore, the present research has found additional significance for the personality factor conscientiousness. While conscientiousness was previously only known as a promoter of exploitative behaviour in the ambidexterity literature, the results have shown that conscientiousness further negatively moderates the influence of the demand for ambidexterity on psychological well-being. While conscientiousness was previously considered a desirable personality trait for achieving ambidexterity, the results of the present research suggest that conscientiousness may only have a positive effect in the short term by promoting exploitative behaviour as an important component of ambidexterity but may have a negative impact on psychological well-being in the long term.

With these findings, the present research has made an important contribution to personality theory by demonstrating the role of the Big Five personality traits in how individuals cope with the demand for simultaneous engagement in the opposing activities of exploitation and exploration. This is an important advance for personality theory but also for individual ambidexterity theory, which has been enriched with the important link to personality theory by this research.

6.3.1.4 Implications for team climate theory

Within the present research, the hypothesis that not only personality but also the work environment - specifically the team climate - moderates the impact of the demand for ambidexterity on psychological well-being was investigated. Such a moderating effect of team climate could not be found in this research. However, this result nevertheless makes a valuable contribution to team climate theory. Previous research had shown that a conducive team climate can promote individual ambidexterity (C. Gibson & Birkinshaw, 2004; Schnellbächer et al., 2019; C. L. Wang & Rafiq, 2014). The present research has shown that such a team climate, while conducive to individual ambidexterity, does generally not influence its impact on psychological well-being. This finding represents an important advance in understanding the effects of a team climate that promotes ambidexterity.

It is important to note that the present study was conducted after the outbreak of the Covid-19 pandemic, when team collaboration had become mostly virtual. It cannot be entirely ruled out that the changes in the workplace induced by the pandemic may have influenced the results of this research. A detailed discussion of the possible impact of the Covid 19 pandemic on the present research is provided in section 6.4.1.4. As research has shown, a decrease in team collaboration (Coffeng et al., 2021; Whillans et al., 2021) as well as a reduced importance of team climate (Liebermann et al., 2021) could be observed with the introduction of telework. This change might have contributed to the fact that no significant effect of team climate was found in the present research. However, considering that team collaboration will never be the same as it was before the pandemic, the findings of this research are of great importance for further progress in the theory and practice of individual ambidexterity.

6.3.1.5 Implications for job design theory

From the perspective of work design theory, the demand for ambidexterity is considered a form of work enrichment that increases employee autonomy and motivation (T. J. M. Mom et al., 2018). Work motivation is considered an important component of work-related psychological well-being (Mansfield, 2020; Peeters et al., 2014; Rothmann, 2008). Therefore, an increase in psychological well-being would be expected from the demand for ambidexterity. However, the present research did not find an overall positive effect of the demand for ambidexterity on the psychological well-being of middle managers. The demand for ambidexterity only resulted in an increase in psychological well-being among extroverted employees.

This finding, which was only possible due to the previously missing theoretical links created by the present research, has several implications for work design theory. First, it informs work design theory that the effect of introducing ambidextrous jobs on employee well-being is dependent on personality. Second, it should also motivate work design theory to further incorporate personality in future research. The present research not only enriches work design theory with an important insight into the effect of introducing ambidextrous jobs, but also creates a novel link to personality theory.

In addition to these findings regarding the introduction of ambidextrous jobs, this research has further found that a leadership role has a positive impact on the well-being of employees. Thus, it informs work design theory that the design of a job with a leadership role can result in a positive change in the psychological well-being of the employee. This result is in line with previous studies in the field of occupational health research, which found that despite their demanding work situation, managers show fewer burnout symptoms and generally better health than subordinates (Lundqvist et al., 2013; Peter et al., 2020). This observation is explained in literature by the fact that supervisors usually have more control and degree of freedom at work as well as better development opportunities and, as previous studies have shown, generally rate their working conditions more positively and have higher job satisfaction than subordinates. This finding represents another important insight for work design theory, namely that it is seemingly important to ensure that the employee is given sufficient autonomy and freedom to make decisions when designing ambidextrous jobs.

6.3.2 Implications for practice

The present research provides valuable insights for organisations that have or are planning to introduce ambidextrous jobs and are considering how they can systematically promote individual ambidexterity among their employees.

First of all, this research addressed the question of the potential impact of the demand for ambidexterity on employee psychological wellbeing. While there had been a lack of scientifically sound research in this area and the recommendations in literature had been contradictory, employers had so far remained unclear about the longer-term effects of ambidextrous designed jobs. Based on the results of this large-scale field study, no evidence was found of a generally negative impact of job demands requiring individual ambidexterity on psychological well-being suggesting that employers should not be overly concerned about demanding ambidexterity.

Findings from previous neurological research that ambidextrous tasks are cognitively demanding (Laureiro-Martínez et al., 2015) and from social research that the demand for ambidexterity can potentially lead to cognitive tension (Keller & Weibler, 2015), frustration and anger (Karhu, 2017) and role conflict (Bonesso et al., 2014) suggest that the demand for ambidexterity can cause different

types of stress in the employee. However, the results of the present study suggest that this does not result in a negative impact on the psychological well-being of the employee. For employers, this implies that they generally do not expose their employees to unreasonable risk when they demand ambidexterity from them.

At the same time, the study also found no positive impact of ambidextrous designed jobs on employees' psychological well-being. Given these results, employers should be cautious of the suggestion by work design researchers that ambidextrous designed jobs should be seen as a form of work enrichment that increases employee autonomy and motivation, thereby having a positive impact on their psychological well-being (T. J. M. Mom et al., 2018). The results of the present research suggest that it does not make sense to introduce ambidextrous jobs solely to promote employee well-being. Employers are therefore advised to look for measures to improve employee wellbeing that have been proven to be effective, such as stress management interventions (Holman et al., 2018) or mindfulness training (Slutsky et al., 2019).

While the present research has found no overall direct positive or negative influence of the demand for ambidexterity on employees' psychological well-being, personality factors were identified that strongly positively or negatively influence the relationship between the demand for ambidexterity and psychological well-being. A strong positive effect was found for the personality trait extraversion. This implies that highly extroverted employees can effectively experience a positive influence on their well-being through the demand for ambidexterity. In this specific case, the demand for ambidexterity seems to actually act as a work enrichment that increases employee motivation and psychological well-being (T. J. M. Mom et al., 2018). Extraversion is generally a highly desirable personality trait in the workplace due to its positive effect on work motivation and performance (Wilmot et al., 2019). When it comes to selecting employees for ambidextrous jobs, employers are thus in all respects well advised to prefer extroverted candidates.

Negative moderating effects were found for the two personality traits conscientiousness and neuroticism. This research demonstrates that the demand for ambidexterity can have a negative impact on psychological well-being in highly conscientious or neurotic employees. Neuroticism is generally known for its negative influence on psychological well-being (Larsen, 2009). Neurotic employees are vulnerable to stress (Costa & McCrae, 2008; Vollrath, 2001). Employers should therefore assign highly neurotic employees preferably to safe, predictable contexts with low to moderate complexity and avoid confronting them with the demand for ambidexterity in order to protect their well-being.

Caution should also be taken regarding assigning highly conscientious employees to ambidextrous jobs. Research has shown that conscientiousness, as the most important predictor of job performance (Lin et al., 2015), is the personality trait most desired by employers (Wilmot & Ones, 2019). However,

it is also known that the work performance enhancing effect of conscientiousness occurs predominantly in well-predictable environments and occupations with low to moderate complexity (Wilmot & Ones, 2019). In ambidextrous jobs, where goals are often less clearly formulated and complexity is higher (Bonesso et al., 2014; Sok et al., 2016; Tempelaar & Rosenkranz, 2017), the positive effects of conscientiousness are thus likely to be less strong. While highly conscientious employees contribute high value to the organisation when assigned to well-predictable environments with moderate complexity, there is a risk that they experience a negative impact on their psychological well-being in ambidextrous jobs. Previous research has shown that highly conscientious employees have difficulty making accurate decisions after changes. Fundamental changes and completely new approaches are the goal and the result of explorative activities. Thus, high levels of conscientiousness among employees in ambidextrous jobs may have not only a negative impact on the psychological well-being of the employee, but also a direct negative impact on the success of the company. Employers who aim to introduce ambidextrous jobs should therefore be careful not to place too much emphasis on the personality trait of conscientiousness in recruitment and talent management, as is often the case today (Wilmot & Ones, 2019).

In summary companies are advised to introduce ambidextrous jobs only if there are organisational or economic advantages in doing so and when doing so employers are advised to consider the personality of their employees when assigning ambidextrous jobs to them.

Psychological assessments are a common tool in the personnel selection process (Salgado, 2017). Ryan and colleagues (2015) found in their broad survey of companies of various sizes from different industries and from 25 nations (including the USA, Belgium, China, Sweden, the Netherlands, Greece, Portugal, France and the UK) that most of the companies use personality tests in employee recruitment and selection. Most assessments are based on the five-factor model of personality (Nikolaou & Foti, 2018a). The use of personality tests in employee recruitment and selection has been widely studied and evidence of their positive impact on organisational performance has been repeatedly found (Oh et al., 2015). There is a consensus in the literature that the Big Five personality dimensions are important variables for predicting and explaining various dimensions of job performance, and that personality tests capture employee characteristics that cannot be measured by other instruments (Salgado, 2017). The previously discussed findings from this research enable employers to make more informed decisions about appropriate work assignments based on the personality profiles identified through personality assessments.

In conclusion, the following advice can be given to employers: In principle, they are unlikely to expose their employees to excessive risk by creating ambidextrous jobs. However, demanding ambidexterity does not seem to be a generally effective means of promoting employee motivation either. In order to assess the individual impact of the demand for ambidexterity on the respective employee, his or her individual personality should be taken into account. Without taking personality into account,

companies are advised to introduce ambidextrous jobs only if there are organisational or economic advantages in doing so.

6.4 Limitations and suggestions for further research

This section discusses the limitations of the present research, as well as the recommendations for further research. The section starts with a discussion of the limitations of the project. As explained in the discussion of the ethical considerations (see section 3.5), the present research places great emphasis on the protection of the research community. The comprehensive explanation of the limitations contributes to the honest and transparent reporting from this research. Following this, the recommendations for further research are explained. These result on the one hand from the insights gained from this research and on the other hand from the limitations of this research.

6.4.1 Limitations

Study limitations have been defined as "*potential weaknesses or problems with the study identified by the researcher*" (Creswell, 2012, p. 199). There is no research study without one or another limitation (Akanle et al., 2020; J. Ellis & Levy, 2009; Leedy & Ormrod, 2005). However, as Akanle and colleagues point out, the researcher has a significant influence on the extent to which the limitations affect the reliability and generalisability of the research results: "*There may be no perfect research but finesse in managing limitations can determine the level of perfection of research.*" (Akanle et al., 2020, p. 110). Aware of this, the present research placed high emphasis on early identification of potential limitations, objective estimation of their potential impact, and consideration of alternative approaches to mitigate the limitation (Ross & Bibler Zaidi, 2019).

Limitations can arise in almost the entire research process, particularly in the study design, data collection, data analysis and study results (Ross & Bibler Zaidi, 2019). They may originate in conscious decisions made by the researcher, such as the choice of research design, statistical model or sampling strategy, which may reflect financial, time or practical constraints (Ross & Bibler Zaidi, 2019; Theofanidis, Dimitrios Fountouki, 2018). Limitations may also result from unforeseen issues that only manifest in the course of the research project. In the present research, such an unforeseen issue was the Covid-19 pandemic with its lockdowns, occurring during the data collection stage (Akanle et al., 2020).

The limitations identified in the present research, as well as the measures taken to minimise their impact, are outlined in the following. Furthermore, avenues for further research are discussed, which particularly result from limitations originating in conscious decisions of the researcher (Creswell, 2012). The discussion follows the research journey, starting with the limitations that became apparent in the early stages of research design and data collection. Next, the limitations that became apparent only

after the fieldwork, during data analysis, are discussed. Finally, in the context of the study results, the absolutely unplanned and uncontrollable limitations introduced by the Covid-19 pandemic and its lockdowns that took place during the field test are discussed.

6.4.1.1 Limitations of the study design

For any research project, the research design and strategy must be initially determined (Creswell & Creswell, 2018). The iterative process of choosing the research design and strategy for the present research has been thoroughly discussed in section 3.2. These conscious decisions by the researcher, which exclude other approaches and strategies for conducting the research, thus also always come with limitations (Ross & Bibler Zaidi, 2019). In the following, the limitations resulting from the conscious research design decisions, in particular the chosen research strategy of a single case study as well as the purposive sampling strategy, are discussed.

A first fundamental limitation results from the decision to investigate the research problem by means of a single case study. As a consequence, the results of the present research, as with all single case studies, may not be generalisable to all possible contexts (Tellis, 1997). The research site for this survey was chosen so that middle managers from different business areas, of different age, gender and education from the various Swiss language regions were surveyed. Ultimately, however, the study took place within a single organisation respectively a single nation. Consequently, cultural generalisability is not given per se. A recommendation for future research is therefore to repeat the survey in other cultures and maybe also with other occupational groups.

Within this context, for example, it would be interesting to examine the influence of the level of education on the results. The present survey was conducted in Switzerland, a country with one of the highest levels of education in the world (Fuentes, 2011). As research has shown, people in countries with high levels of education generally experience lower levels of work stress than those in countries with low levels of education (Lunau et al., 2015). This could be one explanation why Swiss Post middle managers generally reported higher levels of psychological well-being than found in previous studies (Benraïss-Noailles & Viot, 2021; Mielniczuk & Łaguna, 2018).

In addition, within the context of a multicultural replication of the present research, an influence of the economic situation and job security could possibly be observed. As previous research has shown, employees who enjoy high levels of job security experience less burnout and work stress (Soelton et al., 2020). Considering that Swiss Post as the research site of this survey is a semi-public organisation and its employees generally have very secure and well-paid jobs, this could be another explanation for the generally high reported psychological well-being of the participants in this survey. In summary thus, while no evidence of a generally negative impact of the demand for ambidexterity on employees'

psychological wellbeing has been found in this research, these results might possibly diverge in a different research context, maybe with less educated employees in less safe work environments.

6.4.1.2 Limitations of data collection

In addition to the research design and strategy, the method of data collection must also be determined at an early stage of the research project (Creswell & Creswell, 2018). The researcher's decisions in this regard, which often involve consideration of limited resources, access restrictions or other constraints, largely determine the generalisability and reliability of the study results and therefore often come with limitations (Bryman, 2012). Also, for the present research, limitations result from the decisions on the data collection approach, in particular from the chosen sampling strategy and survey method. The limitations and the measures taken to mitigate them are discussed in the following.

A first limitation in the context of data collection arises from the choice of non-probability sampling. Together with the research department of the research site, a sample was selected which, on the one hand, should represent the population as accurately as possible and, on the other hand, should allow good access to the individual middle managers and thus a high response rate. The selected sample consisted of the three core business areas of Swiss Post in logistics. Middle managers from the other business areas, which primarily operate in the fields of international services, transport, and banking, were thus excluded.

Such purposive sampling designs are generally considered valuable in literature because they entail the advantage of precision (Easterby-Smith et al., 2018). However, like all non-probability sampling methods, they also receive some criticism as not all units in the population have an equal chance of being selected (Bryman, 2012). Researchers claim that this limits the generalisability of the sample to the population, which poses a threat to external validity (Andrade, 2021; Creswell, 2013). This potential threat was addressed when forming the sample. The three core business areas of Swiss Post, which represent the largest part of the organisation and exhibit the greatest stability in terms of organisational structure and operations, were deliberately chosen for the sample. Intensive studies of the employee statistics as well as consultations with the research department of the research site had led to the conclusion that this strategy would lead to the best possible generalisability. With these carefully made decisions, the limitation imposed by the non-probability sampling strategy cannot be eliminated, but its impact can be minimised.

Another limitation arises from the fact that this research relies exclusively on self-reported data from employees. Self-reported data may entail potential problems due to response bias and social desirability bias (Saunders et al., 2015). To minimise the risk of such bias, various measures were taken in the preparation and conduct of the survey. First of all, the research instrument of an anonymous online survey was chosen. In this setting, the risk of social desirability bias is much lower

than in face-to-face interviews (Duffy et al., 2005). In addition, in developing the research instrument, attention has been paid to include both positively and negatively formulated items. Reversed items can reduce the risk of response bias as well as careless responses (Weijters et al., 2013). Further efforts to avoid careless answers consisted in developing a good cover story with the indication that by participating in the survey they could help in the targeted improvement of their work environment. The sense that their personal opinion is valued and that the information will be used for their own benefit increases participants' motivation to provide accurate responses (Podsakoff et al., 2012).

In addition to all the efforts to minimise the risk of bias, particular attention was paid to the potential for common method bias. This phenomenon arises from the fact that multiple constructs within a survey are measured using the same method, which can lead to spurious effects attributable to the measurement instruments rather than the constructs being measured (Podsakoff et al., 2003). As discussed in section 4.4.4, measures were taken in the present research already before data collection to minimise the risk for CMB. These include anonymity in the survey, which minimises the risk of social desirability bias, which is a frequent cause for CMB (Duffy et al., 2005; Podsakoff & Organ, 1986). Other measures were the inclusion of positively as well as negatively formulated items in the questionnaire (Weijters et al., 2013) and the development of a good cover story that informs participants about the use of their information (Podsakoff et al., 2012). After all, in the course of the data analysis, it was controlled for the presence of CMB by means of comprehensive statistical tests. The results of the Harman's single factor test (Aguirre-Urreta & Hu, 2019; Bido et al., 2018; Podsakoff & Organ, 1986) as well as the common latent factor method (CLF) (Jordan & Troth, 2020; Podsakoff et al., 2012; Tehseen et al., 2017) method indicate the absence of CMB in the present research.

6.4.1.3 Limitations of data analysis

In the present research, great efforts were taken to identify potential limitations as early as the planning stage of the study, so that preventive measures could be taken to avoid the limitation or to limit its impact. However, in any research project there is potential for limitations that only become apparent during data analysis (Ross & Bibler Zaidi, 2019). In the present research, such a potential limitation became apparent in the analysis of the personality data.

The 30-item personality measurement instrument BFI-2-S employed in the survey is a widely used and repeatedly validated scale (Danner et al., 2016; Rammstedt et al., 2018; Soto & John, 2017). It was therefore surprising that several insufficient scores were found for this scale during the statistical verification of convergent validity. As discussed in section 4.4.3.1, on the one hand, some secondary loadings were observed in the principal component analysis (PCA) and, on the other hand, a number of insufficient values were found in the confirmatory factor analysis (CFA).

As the literature review had shown, second loadings are a frequent observation in personality research. Personality researchers attribute this phenomenon to the actual conceptual overlaps and correlations of the five personality traits (Beauducel & Wittmann, 2005; Carciofo et al., 2016; McCrae, 2009). As the theoretical discussion of the concept of personality in section 2.5.1 had shown, the five personality factors are not mutually exclusive, but personality is formed by the individual manifestations of the personality traits (McCrae, 2009; Vollrath, 2001). This has led some personality researchers to criticise that the Big Five model, which serves as the conceptual foundation for most personality measurement instruments, as well as the instrument employed in the present research, is an oversimplified representation of personality, and that a multidimensional circumplex model would reflect the complex structure of personality much better (Hofstee et al., 1992; Johnson & Ostendorf, 1993; Strus et al., 2014). However, in applied research, this complex and therefore very difficult to apply model is hardly ever used (Arthur et al., 2001). The primary loadings of the personality items obtained in the PCA corresponded exactly to the factor structure specified by the measurement instrument. Therefore, the secondary loadings are regarded at best as a statistical limitation, which, however, is not primarily attributable to the present research, but to personality research in general.

In the CFA, several unsatisfactory scores were found for the personality items, which suggests low convergent validity. However, as the literature review has shown, these results are, similar to the secondary loadings found in the PCA, a frequent observation in personality research. As a reason for this, on the one hand, the previously discussed theoretical-conceptual challenges in the investigation of Big Five personality models are stated (Hofstee et al., 1992; Johnson & Ostendorf, 1993; Strus et al., 2014). On the other hand, as thoroughly discussed in section 4.4.3.2, analytical-technical problems and limitations resulting from the underlying assumptions of the CFA are described in the literature as the cause for the insufficient results in the investigation of Big Five personality models (Furnham et al., 2013; Marsh et al., 2013; Vassend & Skrondal, 1997). Due to these shortcomings of CFA in the analysis of personality structure models, personality researchers recommend relying on PCA or EFA and structural equation modelling (SEM) (Borkenau & Ostendorf, 1990; Carciofo et al., 2016). Following these recommendations, construct validity was assessed in the present research by means of PCA, which extracted the five personality factors in accordance with the theoretical Big Five personality model and thus provided perfect results apart from the commonly observed secondary loadings.

In summary, the present research has limitations regarding data analysis, which, although in line with previous research, need to be mentioned and should be taken into account in future research. One avenue for future research would be to replicate the study with a personality measurement instrument not based on the Big Five model, such as the Myers-Briggs Type Indicator (MBTI) (Carlson, 1985; Myers & McCaulley, 1988) or the Sixteen Personality Factors Questionnaire (16PF) (Cattell, 2001). It would be interesting to investigate, on the one hand, whether the statistical limitations are eliminated with these alternative personality models and, on the other hand, whether the personality factors

defined in these models also show moderating effects on the impact of the demand for ambidexterity on psychological well-being.

6.4.1.4 Limitations of the study results

While the limitations discussed so far are largely based on conscious decisions by the researcher, for example on the choice of research design, sampling strategy and statistical model, completely unplanned and hardly influenceable limitations occurred with respect to the Covid-19 pandemic. The pandemic began to spread in Switzerland shortly before the pre-test. The first lockdown coincided with the pre-test phase. During a few weeks of the field test, the second lockdown took place. The pandemic with its lockdowns has abruptly changed the workplace and thus the context of business and management research. This also results in several limitations for the present research, which are discussed in the following.

Due to the pandemic and the associated lockdown regulations, many organisations were forced to abruptly introduce telework, which was a completely new work situation for most employees (Liebermann et al., 2021). As research has shown, Covid-19 and the associated changes in the social and professional environment have had a major impact on well-being (Dawel et al., 2020; Dawson & Golijani-Moghaddam, 2020) as well as collaboration within the working team (Almeida et al., 2020). Research has shown that after the introduction of telework, team interactions have been perceived as challenging and often ineffective by team members (Whillans et al., 2021) and decisions have more often been made autonomously instead of being debated in the group (Coffeng et al., 2021). In general, the relevance of teamwork and the team climate was found to be less relevant for employees after the introduction of telework (Liebermann et al., 2021). This change may have contributed to the fact that, contrary to the expectations, the influence of team climate was largely not significant in the present research. However, considering that the workplace after Covid-19 will never be the same as before the pandemic (de Lucas Ancillo et al., 2021), the timing of the present survey is actually not a weakness. Rather, it makes the findings applicable to the current and future business world.

Studies have further shown that over time the pandemic has had different effects on people's psychological well-being (Daly et al., 2020). Sønderskov, Dinesen, Vistisen and Østergaard (2021) found that the psychological well-being of their broad Danish sample dropped significantly during the first wave of the pandemic, then rose again towards the second wave and dropped again towards the third wave. Other studies have found that employees who worked from home during the pandemic experienced a positive impact on their psychological well-being, while those who worked on-site and experienced changes in their work as a result of the pandemic suffered a negative impact on their psychological well-being (Ervasti et al., 2021). Social physicians conclude that while Covid-19 affected psychological well-being in different ways, the tsunami of mental illness predicted by British psychiatrists (Dubicka & Bolton, 2020) generally did not occur (Riedel-Heller & Richter, 2021). It can

therefore be assumed that there was no bias in the psychological well-being surveyed in the present study due to the pandemic.

6.4.2 Avenues for further research

The theoretical insights gained with the present research also offer scope for further investigation of the phenomena observed. For example, to better understand the impact of the demand for ambidexterity, it would be valuable to investigate employees' perceptions and handling of stress in addition to their well-being. While the present research has found neither a positive nor a negative impact of the demand for ambidexterity on psychological well-being, previous research has found positive correlations between individual ambidexterity and different types of stress. To better understand these observations, it would be valuable to examine stress and well-being at the same time. This would make it possible to verify the conclusion drawn from the results of the present research that, although the demand for ambidexterity may cause stress, this is generally not appraised as negative and thus does not have a negative impact on psychological well-being. Such a study could be based on Lazarus' stress theory (Lazarus, 1966), which suggests that it is not the objective situation that determines the stress reaction, but the subjective evaluation by the individual concerned. In this way, such an investigation would not only expand the ambidexterity theory generated by the present research, but also make an additional contribution to stress theory.

Another option for future research would be to test the possible beneficial effects of ambidextrous designed jobs for extroverted employees. Work design researchers consider ambidextrous jobs as a form of work enrichment that increases employees' autonomy and motivation (T. J. M. Mom et al., 2018). Since work motivation is regarded as an important component of work-related psychological well-being (Mansfield, 2020; Peeters et al., 2014; Rothmann, 2008), an increase in psychological well-being through the demand for ambidexterity would be expected. However, no general positive effect was found in the present research. As this research has shown, the demand for ambidexterity only led to an increase in psychological well-being among extroverted employees. In order to better understand the mechanism that leads to an increase in psychological well-being in extroverted employees, a specific study of such personality types could be valuable. For this purpose, either extroverted employees with ambidextrous jobs could be interviewed or an experiment could be conducted in which extroverted employees would be specifically confronted with the demand for ambidexterity. It could now be observed whether the demand for ambidexterity actually leads to an increase in psychological well-being via an increase in motivation. An increase in motivation could be particularly interesting from a business perspective because motivation is known to be an important precursor of employee performance and company success (Dartey-Baah, 2010; Faisal Ahammad et al., 2015; Ovidiu-Iliuta, 2013). In the case of an experiment, it would have to be ensured that neither the employee under study nor his colleagues nor his organisation would experience any harm as a result of the research.

With a similar research objective, it would also be interesting to further investigate the tendency of conscientious and neurotic employees to experience a negative impact on their psychological well-being from the demand for ambidexterity. Again, it would be valuable to study stress and well-being in order to better understand the underlying mechanisms that lead to the negative impact on psychological well-being. Since the present research has found indications of a possible negative influence of the demand for ambidexterity on the psychological well-being of conscientious and neurotic employees, it would obviously not be appropriate to assign employees with this personality profile to an extra ambidextrous job within an experiment.

6.5 Overall outcome and personal reflection of the researcher

Overall, the present research has not only made a significant contribution to closing a long known significant gap in the theory of individual ambidexterity. It is also of great interest to all organisations wishing to introduce contextual ambidexterity and thus ambidextrous jobs and provides concrete advice for personnel selection and job design. Finally, hopefully, the theoretical foundations created by this research will enable practitioners to make better decisions about the introduction of ambidextrous jobs and the selection of suitable employees, thus ensuring the psychological well-being of employees and the long-term success of the organisation.

With Swiss Post as the research site, it was possible to investigate the phenomena on employees with a wide variety of backgrounds from a range of administrative jobs. When the Covid-19 pandemic broke out in the middle of the pre-testing of the research instrument, there were fears that the present research respectively its time schedule would be affected. The lockdowns had led to a massive workload for the logistics industry and thus partly also for the middle managers of Swiss Post. However, as it turned out, a large number of middle managers took the time to participate in the research. However, the research did not only arouse great interest among the participants, but also among work colleagues and research fellows. This suggests that the present research has not only addressed an important gap in theory but also a contemporary practical topic.

References

Abbas, M., & Raja, U. (2019). Challenge-Hindrance Stressors and Job Outcomes: the Moderating Role of Conscientiousness. *Journal of Business and Psychology*, *34*(2), 189–201. https://doi.org/10.1007/s10869-018-9535-z

Abraham, A. (2015). Gender and creativity: an overview of psychological and neuroscientific literature. In *Brain imaging and behavior* (Vol. 10, Issue 2).

Adler, P. S., Goldoftas, B., & Levine, D. I. (1999). Flexibility versus efficiency? A case study of model changeovers in the Toyota production system. *Organization Science*, *10*(1), 43–68. https://doi.org/10.1088/1755-1315/75/1/012027

Afshar, H., Roohafza, H., Keshteli, A. H., Mazaheri, M., Roohafza, H. R., Feizi, A., & Adibi, P. (2015). The association of personality traits and coping styles according to stress level. *Journal of Research in Medical Sciences*, *20*(4), 353–358. https://www.researchgate.net/publication/279303732

Afuah, A. (2020). *Innovation management-strategies, implementation, and profits*.

Agnihotri, R., Gabler, C. B., Itani, O. S., Jaramillo, F., & Krush, M. T. (2017). Salesperson ambidexterity and customer satisfaction: examining the role of customer demandingness, adaptive selling, and role conflict. *Journal of Personal Selling and Sales Management*, *37*(1), 27–41. https://doi.org/10.1080/08853134.2016.1272053

Aguinis, H., Gottfredson, R. K., & Joo, H. (2013). Best-Practice Recommendations for Defining, Identifying, and Handling Outliers. *Organizational Research Methods*, *16*(2), 270–301. https://doi.org/10.1177/1094428112470848

Aguirre-Urreta, M. I., & Hu, J. (2019). Detecting common method bias: Performance of the Harman's single-factor test. *Data Base for Advances in Information Systems*, *50*(2), 45–70. https://doi.org/10.1145/3330472.3330477

Ajayi, O. M., Odusanya, K., & Morton, S. (2017). Stimulating employee ambidexterity and employee engagement in SMEs. *Management Decision*, *55*(4), 662–680. https://doi.org/10.1108/MD-02-2016-0107

Alam, M. M., Melhim, L. K. B., Ahmad, M. T., & Jemmali, M. (2022). Public Attitude Towards COVID-19 Vaccination: Validation of COVID-Vaccination Attitude Scale (C-VAS). *Journal of Multidisciplinary Healthcare*, *15*(March), 941–954. https://doi.org/10.2147/JMDH.S353594

Alghamdi, F. (2018). Ambidextrous leadership, ambidextrous employee, and the interaction between ambidextrous leadership and employee innovative performance. *Journal of Innovation and Entrepreneurship*, *7*(1), 1–14. https://doi.org/10.1186/s13731-018-0081-8

Allik, J., & Mccrae, R. R. (2004). Toward a Geography of Personality Traits: Patterns of Profiles across 36 Cultures. *Journal of Cross-Cultural Psychology*, *35*(1), 13–28. https://doi.org/10.1177/0022022103260382

Allport, G. W., & Odbert, H. S. (1936). Trait-names: A psycho-lexical study. *Psychological Monographs*, *47*(1).

Almeida, F., Duarte Santos, J., & Augusto Monteiro, J. (2020). The Challenges and Opportunities in the Digitalization of Companies in a Post-COVID-19 World. *IEEE Engineering Management Review*, *48*(3), 97–103. https://doi.org/10.1109/EMR.2020.3013206

Aluja, A., García, Ó., García, L. F., & Seisdedos, N. (2005). Invariance of the "NEO-PI-R" factor structure across exploratory and confirmatory factor analyses. *Personality and Individual Differences*, *38*(8), 1879–1889. https://doi.org/10.1016/j.paid.2004.11.014

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*(3), 411–423. https://doi.org/10.1037//0033-2909.103.3.411

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management*, *5*(40), 1297–1333. https://doi.org/10.1017/CBO9781107415324.004

Anderson, N. R., & West, M. A. (1998). Measuring climate for work group innovation: development and validation of the team climate inventory. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *19*(3), 235–258.

Anderson, N., & West, M. A. (1994). Team climate inventory: Manual and user's guide. *ASE*.

Anderson, N., & West, M. A. (1996). The team climate inventory: Development of the tci and its applications in teambuilding for innovativeness. *European Journal of Work and Organizational Psychology*, *5*(1), 53–66. https://doi.org/10.1080/13594329608414840

Andriopoulos, C., & Lewis, M. W. (2009). Exploitation-Exploration Tensions and Organizational Ambidexterity: Managing Paradoxes of Innovation. *Organization Science*, *20*(4), 696–717. https://doi.org/10.1287/orsc.1080.0406

Andriopoulos, C., & Lewis, M. W. (2010). Managing Innovation Paradoxes: Ambidexterity Lessons from Leading Product Design Companies. *Long Range Planning*, *43*(1), 104–122. https://doi.org/10.1016/j.lrp.2009.08.003

Antonio, T., Murwani, F. D., Bernarto, I., & Sudibyo, N. (2021). Fostering Team Innovation In Tech Start-Ups: The Role Of Team Ambidexterity As Mediator Between Servant Leadership Behaviour And Team Innovation. *International Journal of Innovation Management*, *25*(8), 1–27. https://doi.org/10.1142/S1363919621500912

Anvari, M. R. A., Kalali, N. S., & Gholipour, A. (2011). How does Personality Affect on Job Burnout? *International Journal of Trade, Economics and Finance*, 115–119. https://doi.org/10.7763/ijtef.2011.v2.88

Arafat, S., Chowdhury, H., Qusar, M., & Hafez, M. (2016). Cross Cultural Adaptation and Psychometric Validation of Research Instruments: a Methodological Review. *Journal of Behavioral Health*, *5*(3), 129. https://doi.org/10.5455/jbh.20160615121755

Arbuckle, J. L. (2017). *IBM SPSS Amos 25 User's Guide*. IBM Corp. https://doi.org/10.4135/9781446249345

Arbuckle, J. L. (2020). *IBM® SPSS® User's Guide Amos™ 27*. Amos Development Corporation.

Ariza-Montes, A., Arjona-Fuentes, J. M., Han, H., & Law, R. (2018). Work environment and well-being of different occupational groups in hospitality: Job Demand–Control–Support model. *International Journal of Hospitality Management*, *73*(January), 1–11. https://doi.org/10.1016/j.ijhm.2018.01.010

Armstrong, J. S., & Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research*, *14*(3), 396. https://doi.org/10.2307/3150783

Arnold, K. A., & Walsh, M. M. (2015). Customer incivility and employee well-being: testing the moderating effects of meaning, perspective taking and transformational leadership. *Work and Stress*, *29*(4), 362–378. https://doi.org/10.1080/02678373.2015.1075234

Arthur, W., Woehr, D. J., & Graziano, W. G. (2001). Personality testing in employment settings: Problems and issues in the application of typical selection practices. *Personnel Review*, *30*(6), 657–676. https://doi.org/10.1108/EUM0000000005978

Awang, Z., Afthanorhan, A., & Mamat, M. (2016). *The Likert scale analysis using parametric based Structural Equation Modeling (SEM)*. https://www.researchgate.net/publication/303841030

Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology*, *34*(10), 2045–2068. https://doi.org/10.1111/j.1559-1816.2004.tb02690.x

Babin, B. J., & Boles, J. S. (1998). Employee Behavior in a Service Environment: A Model and Test of Potential Differences between Men and Women. *Journal of Marketing*, *62*(2), 77–91. https://doi.org/10.1177/002224299806200206

Bäckström, M. (2007). Higher-order factors in a five-factor personality inventory and its relation to social desirability. *European Journal of Psychological Assessment*, *23*(2), 63–70. https://doi.org/10.1027/1015-5759.23.2.63

Baer, J., & Kaufman, J. C. (2008). Gender differences in creativity. *Journal of Creative Behavior*, *42*(2), 75–105. https://doi.org/10.1002/j.2162-6057.2008.tb01289.x

Bahrami, M. A., Taheri, G., Montazeralfaraj, R., & Dehghani Tafti, A. (2013). The relationship between organizational climate and psychological well-being of hospital employees. *World Journal of Medical Sciences*, *9*(1), 61–67. https://doi.org/10.5829/idosi.wjms.2013.9.1.75152

Bain, P. G., Mann, L., & Pirola-Merlo, A. (2001). The innovation imperative the relationships between team climate, innovation, and performance in research and development teams. *Small Group Research*, *32*(1), 55–73. https://doi.org/10.1177/104649640103200103

Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, *22*(3), 309–328. https://doi.org/10.1108/02683940710733115

Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. I. (2014). Burnout and Work Engagement: The JDR Approach. *Annual Review of Organizational Psychology and Organizational Behavior*, *1*(March), 389–411. https://doi.org/10.1146/annurev-orgpsych-031413-091235

Bakker, M., & Wicherts, J. M. (2014). Outlier removal, sum scores, and the inflation of the type i error rate in independent samples t tests: The power of alternatives and recommendations. *Psychological Methods*, *19*(3), 409–427. https://doi.org/10.1037/met0000014

Bakla, A., Çekiç, A., & Köksal, O. (2012). Web-based surveys in educational research. *International Journal of Academic Research*, *5*(1), 5–13. https://doi.org/10.7813/2075-4124.2013/5-1/b.1

Balaguer, I., Duda, J. L., & Castillo, I. (2017). Motivational Antecedents of Well-Being and Health Related Behaviors in Adolescents. *Journal of Human Kinetics*, *59*(1), 121–130. https://doi.org/10.1515/hukin-2017-0152

Barel, E., Mizrachi, Y., & Nachmani, M. (2020). Quantifying the predictive role of temperament dimensions and attachment styles on the five factor model of personality. *Behavioral Sciences*, *10*(10), 1–11. https://doi.org/10.3390/BS10100145

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personalitiy and Social Psychology*, *51*(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173

Barr, P. (2018). The five-factor model of personality, work stress and professional quality of life in neonatal intensive care unit nurses. *Journal of Advanced Nursing*, *74*(6), 1349–1358. https://doi.org/10.1111/jan.13543

Barrett, P. (2007). Structural equation modelling: Adjudging model fit. *Personality and Individual Differences*, *42*(5), 815–824. https://doi.org/10.1016/j.paid.2006.09.018

Barrick, M. R., Mount, M. K., & Strauss, J. P. (1993). Conscientiousness and performance of sales representatives: Test of the mediating effects of goal setting. *Journal of Applied Psychology*, *78*(5), 715–722. https://doi.org/10.1037//0021-9010.78.5.715

Bastos, J. L., Duquia, R. P., González-Chica, D. A., Mesa, J. M., & Bonamigo, R. R. (2014). Field work I: Selecting the instrument for data collection. *Anais Brasileiros de Dermatologia*, *89*(6), 918–923. https://doi.org/10.1590/abd1806-4841.20143884

Beaton, D., Bombardier, C., Guillemin, F., & Ferraz, M. B. (1998). Recommendations for the Cross-Cultural Adaptation of Health Status Measures. *American Academy of Orthopedic Surgeons*, *December*, 1–27. https://www.ortho.umn.edu/sites/ortho.umn.edu/files/recommendations-cultural.pdf

Beaton, D. E., Bombardier, C., Guillemin, F., & Ferraz, M. B. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*, *25*(24), 3186–3191. https://doi.org/10.1080/000163599428823

Beauducel, A., & Wittmann, W. W. (2005). Simulation Study on Fit Indexes in CFA Based on Data With Slightly Distorted Simple Structure. *Structural Equation Modeling A Multidisciplinary Journal ·*, *12*(1), 41–75. https://doi.org/10.1207/s15328007sem1201

Beaulieu, M. D., Dragieva, N., Del Grande, C., Dawson, J., Haggerty, J. L., Barnsley, J., Hogg, W. E.,

Tousignant, P., & West, M. A. (2014). The team climate inventory as a measure of primary care teams' processes: Validation of the French version. *Healthcare Policy*, *9*(3), 40–54. https://doi.org/10.12927/hcpol.2014.23730

Beck, C. T., Bernal, H., & Froman, R. D. (2003). Methods to document semantic equivalence of a translated scale. *Research in Nursing and Health*, *26*(1), 64–73. https://doi.org/10.1002/nur.10066

Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. *Organizational Research Methods*, *8*(3), 274–289. https://doi.org/10.1177/1094428105278021

Becker, T. E., Atinc, G., Breaugh, J. A., Carlson, K. D., Edwards, J. R., & Spector, P. E. (2016). Statistical control in correlational studies : 10 essential recommendations for organizational researchers. *Journal of Organizational Behavior*, *37*(2), 157–167. https://doi.org/10.1002/job

Bell, E., & Bryman, A. (2007). The ethics of management research: An exploratory content analysis. *British Journal of Management*, *18*(1), 63–77. https://doi.org/10.1111/j.1467-8551.2006.00487.x

Benner, M. J., & Tushman, M. L. (2003). Exploitation, exploration, and process management: The productivity dilemma revisited. *Academy of Management Review*, *28*(2), 238–256.

Benraïss-Noailles, L., & Viot, C. (2021). Employer brand equity effects on employees well-being and loyalty. *Journal of Business Research*, *126*, 605–613. https://doi.org/10.1016/j.jbusres.2020.02.002

Bernerth, J. B. (2016). A critical review and best-practice recommendations for control variable usage. *Personnel Psychology*, *96*(1), 229–283. https://doi.org/10.1111/peps.12103

Bidmon, C. M., & Boe-Lillegraven, S. (2019). Now, switch! Individuals' responses to imposed switches between exploration and exploitation. *Long Range Planning*, *53*(6). https://doi.org/10.1016/j.lrp.2019.101928

Bido, D. S., Mantovani, D. M. N., & Cohen, E. D. (2018). Destruction of measurement scale through exploratory factor analysis in production and operations research. *Gestao e Producao*, *25*(2), 384–397. https://doi.org/10.1590/0104-530X3391-16

Birkinshaw, J., & Gibson, C. (2004). Building Ambidexterity into an Organization. *MIT Sloan Management Review*, *45*(4), 47–51. https://doi.org/10.1136/bmj.2.2081.1472-a

Birkinshaw, J., & Gupta, K. (2013). Clarifying the Distinctive Contribution of Ambidexterity to the Field of Organization Studies. *The Academy of Management Perspectives*, *27*(4), 287–298. https://doi.org/10.5465/amp.2012.0167

Bischoping, K., & Dykema, J. (1999). Toward a Social Psychological Programme for Improving Focus Group Methods of Developing Questionnaires. *Journal of Official Statistics*, *15*(4), 495–516.

Blanchflower, D. G., & Oswald, A. J. (2004). Well-being over time for Britain and the USA. *Journal of Public Economics*, *88*(7–8), 1359–1386.

Bledow, R., Frese, M., Anderson, N., Erez, M., & Farr, J. (2009). A Dialectic Perspective on Innovation: Conflicting Demands, Multiple Pathways, and Ambidexterity. *Industrial and Organizational Psychology*, *2*(3), 305–337. https://doi.org/10.1111/j.1754-9434.2009.01154.x

Block, J. (1995). A contrarian view of the five-factor approach to personality description. *Psychological Bulletin*, *117*(2), 187–215. https://doi.org/10.1037/0033-2909.117.2.187

Boemelburg, R., Palmie, M., Boehm, J., & Lekkas, C. (2018). *Towards systematically developing individuals' ambidextrous performance: A Social Cognitive Perspective*. alexandria.unisg.ch

Bolarinwa, O. (2015). Principles and methods of validity and reliability testing of questionnaires used in social and health science researches. *Nigerian Postgraduate Medical Journal*, *22*(4), 195. https://doi.org/10.4103/1117-1936.173959

Bolger, N., & Schilling, E. A. (1991). Personality and the problems of everyday life: The role of neuroticism in exposure and reactivity to daily stressors. *Journal of Personality*, *59*(3), 355–386. https://doi.org/10.1111/j.1467-6494.1991.tb00253.x

Bolger, N., & Zuckerman, A. (1995). A Framework for Studying Personality in the Stress Process. *Journal of Personality and Social Psychology*, *69*(5), 890–902. https://doi.org/10.1037/0022-3514.69.5.890

Bonesso, S., Gerli, F., & Scapolan, A. (2014). The individual side of ambidexterity: Do individuals' perceptions match actual behaviors in reconciling the exploration and exploitation trade-off? *European Management Journal*, *32*(3), 392–405. https://doi.org/10.1016/j.emj.2013.07.003

Borkenau, P., & Ostendorf, F. (1990). Comparing exploratory and confirmatory factor analysis: A study on the 5-factor model of personality. *Personality and Individual Differences*, *11*(5), 515–524. https://doi.org/10.1016/0191-8869(90)90065-Y

Boumgarden, P., Nickerson, J., & Zenger, T. R. (2012). Sailing Into the Wind: Exploring the Relationships Among Ambidexterity, Vacillation, and Organizational Performance. *Strategic Management Journal*, *33*(6), 587–610. https://doi.org/10.2307/41524883

Brace, I. (2013). *Questionnaire design: How to plan, structure and write survey material for effective market research*. Kogan Page Ltd.

Bradley, B. H., Postlethwaite, B. E., Klotz, A. C., Hamdani, M. R., & Brown, K. G. (2012). Reaping the benefits of task conflict in teams: The critical role of team psychological safety climate. *Journal of Applied Psychology*, *97*(1), 151–158. https://doi.org/10.1037/a0024200

Brancato, G., Macchia, S., Murgia, M., Signore, M., Simeoni, G., Blanke, G., Korner, T., Nimmergut, A., Lima, P., Paulino, R., & Hoffmeyer-Zlotnik, J. H. . (2006). Handbook of Recommended Practices for Questionnarie Development and Testing in European Statistical Systems European Commission Grant Agreement. *European Commission Grat Agreement*, 162. http://epp.eurostat.ec.europaipv6.eu/portal/page/portal/research_methodology/documents/Handbook_questionnaire_development_2006.pdf

Brodbeck, F. C., Anderson, N., & West, M. A. (2000). *Das Teamklima-Inventar: Handanweisung und Validierung der deutschsprachigen Version*.

Brodbeck, F. C., & Maier, G. W. (2001). Das Teamklima-Inventar (TKI) für Innovation in Gruppen: Psychometrische Überprüfung an einer deutschen Stichprobe. *Zeitschrift Für Arbeits-Und Organisationspsychologie*.

Brown, S. L., & Eisenhardt, K. M. (1997). The Art of Continuous Change: Linking Complexity Theory and Time-Paced Evolution in Relentlessly Shifting Organizations. *Administrative Science Quarterly*, *42*(1), 1–34. https://doi.org/10.2307/2393807

Brugess, N., Strauss, K., Currie, G., & Wood, G. (2014). Organizational ambidexterity and the hybrid middle manager: The case of patient safety in UK hospitals. *Human Resource Management*, *54*(1), 87–109. https://doi.org/10.1002/hrm

Bryman, A. (2012). *Social research methods* (4th ed.). Oxford university press.

Buckingham, A., & Saunders, P. (2004). *The survey methods workbook: From design to analysis*. Polity Press Ltd.

Burgers, H., Perrons, R., Mom, T., & Newton, C. (2016). Cultural distance and individual ambidexterity : the moderating roles of emotional intelligence , learning orientation, and bisociative thinking. *ACE Bootamp*, *December*.

Burke, S. (1998). Missing Values, Outliers, Robust Statistics & Non-parametric Methods. *Scientific Data Management*, *1*, 32–38.

Burns, A. C., & Bush, R. F. (2016). *Marketing Research* (Global Edition). Pearson Education Limited.

Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organisational analysis: Elements of the sociology of corporate life*. Heineman.

Busu, C., Cătălina Nedelcu, A., & Nedelcu, A. C. (2015). Specific Features of Postal Service Market Liberalization. In *SEA-Practical Application of Science: Vol. III* (Issue 2).

Cameron, J. J., & Stinson, D. A. (2019). Gender (mis)measurement: Guidelines for respecting gender diversity in psychological research. *Social and Personality Psychology Compass*, *13*(11), 1–14. https://doi.org/10.1111/spc3.12506

Cameron, R., & Miller, P. (2007). Mixed methods research: Phoenix of the paradigm wars. *21st Annual Australian & New Zealand Academy of Management (ANZAM) Conference. 2007*.

Campbell, D., & Robinson, D. (2017). *Structures for Innovation*. *April*.

Caniëls, M. C. J., & Veld, M. (2016). Employee ambidexterity, high performance work systems and innovative work behaviour: How much balance do we need? *The International Journal of Human Resource Management*, 1–21. https://doi.org/10.1080/09585192.2016.1216881

Cao, Q., Gedajlovic, E., & Zhang, H. (2009). Unpacking organizational ambidexterity: Dimensions, contingencies, and synergistic effects. *Organization Science*, *20*(4), 781–796.

Carciofo, R., Yang, J., Song, N., Du, F., & Zahng, K. (2016). Psychometric evaluation of Chinese-language 44-item and 10-item big five personality inventories, including correlations with chronotype, mindfulness and mind wandering. *PLoS ONE*, *11*(2).

Carroll, D. (1992). *Health psychology: Stress, behaviour and disease* (Vol. 4). Psychology Press.

Carter, N. T., Guan, L., Maples, J. L., Williamson, R. L., & Miller, J. D. (2016). The Downsides of Extreme Conscientiousness for Psychological Well-being: The Role of Obsessive Compulsive Tendencies. *Journal of Personality*, *84*(4), 510–522. https://doi.org/10.1111/jopy.12177

Carver, C. S., & Connor-Smith, J. (2010). Personality and coping. *Annual Review of Psychology*, *61*(December), 679–704. https://doi.org/10.1146/annurev.psych.093008.100352

Cha, E. S., Kim, K. H., & Erlen, J. A. (2007). Translation of scales in cross-cultural research: issues and techniques. *Journal of Advanced Nursing*, *58*(4), 386–395. https://doi.org/10.1111/j.1365-2648.2007.04242.x

Chang, S. J., Van Witteloostuijn, A., & Eden, L. (2010). From the Editors: Common method variance in international business research. *Journal of International Business Studies*, *41*(2), 178–184. https://doi.org/10.1057/jibs.2009.88

Chang, Y. C., Yang, P. Y., & Chen, M. H. (2009). The determinants of academic research commercial performance: Towards an organizational ambidexterity perspective. *Research Policy*, *38*(6), 936–946. https://doi.org/10.1016/j.respol.2009.03.005

Chang, Y. Y. (2016). High-performance work systems, joint impact of transformational leadership, an empowerment climate and organizational ambidexterity: Cross level evidence. *Journal of Organizational Change Management*, *29*(3), 424–444. https://doi.org/10.1108/JOCM-09-2015-0150

Chang, Y. Y., & Hughes, M. (2012). Drivers of innovation ambidexterity in small- to medium-sized firms. *European Management Journal*, *30*(1), 1–17. https://doi.org/10.1016/j.emj.2011.08.003

Chen, Y. (2017). Dynamic ambidexterity: How innovators manage exploration and exploitation. *Business Horizons*, *60*(3), 385–394. https://doi.org/10.1016/j.bushor.2017.01.001

Cheng, C., Bartram, T., Karimi, L., & Leggat, S. G. (2013). The role of team climate in the management of emotional labour: Implications for nurse retention. *Journal of Advanced Nursing*, *69*(12), 2812–2825. https://doi.org/10.1111/jan.12202

Chiorri, C., Marsh, H. W., Ubbiali, A., & Donati, D. (2016). Testing the Factor Structure and Measurement Invariance Across Gender of the Big Five Inventory Through Exploratory Structural Equation Modeling. *Journal of Personality Assessment*, *98*(1), 88–99. https://doi.org/10.1080/00223891.2015.1035381

Christensen, C. M. (2013). *The innovator's dilemma : when new technologies cause great firms to fail*. Harvard Business Review Press.

Christensen, C. M., & Overdorf, M. (2000). Meeting the challenge of disruptive change. *Harvard Business Review*, *78*(2).

Coffeng, T., van Steenbergen, E. F., de Vries, F., Steffens, N. K., & Ellemers, N. (2021). Reflective and decisive supervision: The role of participative leadership and team climate in joint decision-making. *Regulation and Governance*. https://doi.org/10.1111/rego.12449

Cohen, L., Manion, L., & Morrison, K. (2017). *Research methods in education*. Routledge.

Collier, J. E. (2020). *Applied structural equation modeling using AMOS: Basic to advanced techniques*. Routledge.

Collins, D. (2003). Pretesting survey instruments: An overview of cognitive methods. *Quality of Life Research*, *12*(3), 229–238. https://doi.org/10.1023/A:1023254226592

Comrey, A., & Lee, H. (1992). *A first course in factor analysis* (2nd editio). Lawrence Erlbaum Associates, Inc.

Costa Jr., P. T., & McCrae, R. R. (1990). Personality: Another “Hidden Factor” is Stress Research. *Psychological Inquiry*, *1*(1), 22–24. https://doi.org/10.1207/s15327965pli0101_5

Costa, P. T. (1983). Editor’s introduction: The varieties of well being. *Experimental Aging Research*, *9*(2), 63. https://doi.org/10.1080/03610738308258426

Costa, P. T., & McCrae, R. R. (1980). Influence of Extraversion and Neuroticism on Subjective Well-Being: Happy and Unhappy People. *Journal of Personality and Social Psychology*, *38*(4), 668–678. https://doi.org/10.1037/0022-3514.38.4.668

Costa, P. T., & McCrae, R. R. (1992). Revised neo personality inventory (neo pi-r) and neo five-factor inventory (neo-ffi). *Psychological Assessment Resources*.

Costa, P. T., & McCrae, R. R. (2008). The revised NEO personality inventory (NEO-PI-R). *The SAGE Handbook of Personality Theory and Assessment*, *2*(2), 179–198. https://doi.org/10.4135/9781849200479.n9

Costa, P. T., & McCrae, R. R. (2010). The NEO Personality Inventory: 3. In *Psychological assessment resources*.

Costa, P. T., McCrae, R. R., & Holland, J. L. (1984). Personality and vocational interests in an adult sample. *Journal of Applied Psychology*, *69*(3), 390–400. https://doi.org/10.1037/0021-9010.69.3.390

Cotton, P., & Hart, P. M. (2003). Occupational wellbeing and performance: A review of organisational health research. *Australian Psychologist*, *38*(2), 118–127. https://doi.org/10.1201/9781315110134-16

Cox, M. Z., Daspit, J., McLaughlin, E., & Jones, R. J. (2012). Strategic Management: Is it an Academic Discipline? *Journal of Business Strategies*, *29*(1), 25–42.

Crandall, A., Ghazarian, S. R., Deater-Deckard, K., Bell, M. A., & Riley, A. W. (2018). The interface of maternal cognitions and executive function in parenting and child conduct problems. *GeneFamily Relations*, *67*(3), 339–353. https://doi.org/10.1111/fare.12318.The

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (Second). Sage Publications.

Creswell, J. W. (2013). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). SAGE Publications Inc.

Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Fifth Edit). SAGE Publications Inc.

Cronbach, L. J., & Meehl, P. E. (2017). Construct validity in psychological tests. *Research Design: The Logic of Social Inquiry*, *58*, 225–238. https://doi.org/10.4324/9781315128498

Curtarelli, M., & van Houten, G. (2018). Questionnaire translation in the European company survey: Conditions conducive to the effective implementation of a TRAPD-based approach. *Translation and Interpreting*, *10*(2), 34–54. https://doi.org/10.12807/ti.110202.2018.a04

Dackert, I. (2010). The impact of team climate for innovation on well-being and stress in elderly care. *Journal of Nursing Management*, *18*(3), 302–310. https://doi.org/10.1111/j.1365-2834.2010.01079.x

Daly, M., Sutin, A. R. S., & Robinson, E. (2020). Longitudinal changes in mental health and the COVID-19 pandemic: evidence from the UK Household Longitudinal Study. *Psychological Medicine*, 1–10. https://doi.org/10.2473/shigentosozai1953.83.947_421

Daniels, K. (2000). Measures of five aspects of affective well-being at work. *Human Relations*, *53*(2),

275–294. https://doi.org/10.1177/0018726700532005

Danner, D. ;, Rammstedt, B. ;, Bluemke, M. ;, Treiber, L. ;, Berres, S. ;, Soto, C. J., & John, O. P. (2016). *Die deutsche Version des Big Five Inventory 2 (BFI-2)*. https://doi.org/10.6102/zis247

Darshani, R. K. N. D. (2014). A Review of Personality Types and Locus of Control as Moderators of Stress and Conflict Management. *International Journal of Scientific and Research Publications*, *4*(1), 2250–3153. www.ijsrp.org

Dartey-Baah, K. (2010). Job satisfaction and motivation: Understanding its impact on employee commitment and organisational performance. *Academic Leadership*, *8*(4).

Dawel, A., Shou, Y., Smithson, M., Cherbuin, N., Banfield, M., Calear, A. L., Farrer, L. M., Gray, D., Gulliver, A., Housen, T., McCallum, S. M., Morse, A. R., Murray, K., Newman, E., Rodney Harris, R. M., & Batterham, P. J. (2020). The Effect of COVID-19 on Mental Health and Wellbeing in a Representative Sample of Australian Adults. *Frontiers in Psychiatry*, *11*(October), 1–8. https://doi.org/10.3389/fpsyt.2020.579985

Dawson, D. L., & Golijani-Moghaddam, N. (2020). COVID-19: Psychological flexibility, coping, mental health, and wellbeing in the UK during the pandemic. *Journal of Contextual Behavioral Science*, *17*(July), 126–134. https://doi.org/10.1016/j.jcbs.2020.07.010

De Cock, C., & O'Doherty, D. (2016). Management as an Academic Discipline. In S. A. and M. L. A. Wilkinson (Ed.), *The Oxford Handbook of Management* (pp. 99–126). Oxford University Press. https://doi.org/10.4018/978-1-5225-1741-2.ch005

de Jonge, J., Bosma, H., Peter, R., & Siegrist, J. (2000). Job strain, effort-reward imbalance and employee well-being: a large-scale cross-sectional study. *Social Science & Medicine*, *50*(9), 1317–1327. https://doi.org/10.1016/S0277-9536(99)00388-3

de Lucas Ancillo, A., del Val Núñez, M. T., & Gavrila, S. G. (2021). Workplace change within the COVID-19 context: a grounded theory approach. *Economic Research-Ekonomska Istrazivanja* , *34*(1), 2297–2316. https://doi.org/10.1080/1331677X.2020.1862689

De Raad, B. (2009). Structural models of personality. In *The Cambridge handbook of personality psychology* (pp. 127–147).

de Ruyter, K., Keeling, D. I., & Yu, T. (2019). Service - sales ambidexterity: evidence , practice and opportunities for future research. *Journal of Service Research*.

De Vaus, D. (2013). *Surveys in social research*. Routledge Ltd.

de Visser, M., de Weerd-Nederhof, P., Faems, D., Song, M., van Looy, B., & Visscher, K. (2010). Structural ambidexterity in NPD processes: A firm-level assessment of the impact of differentiated structures on innovation performance. *Technovation*, *30*(5–6), 291–299. https://doi.org/10.1016/j.technovation.2009.09.008

de Visser, M., & Faems, D. (2015). Exploration and Exploitation within Firms: The Impact of CEOs' Cognitive Style on Incremental and Radical Innovation Performance. *Creativity and Innovation Management*, *24*(3), 359–372. https://doi.org/10.1111/caim.12137

Deary, I. J., Blenkin, H., Agius, R. M., Endler, N. S., Zealley, H., & Wood, R. (1996). Models of job-related stress and personal achievement among consultant doctors. *British Journal of Psychology*, *87*(1), 3–29.

Deci, E. L., & Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, *49*(1), 14–23. https://doi.org/10.1037/0708-5591.49.1.14

Deci, E. L., & Ryan, R. M. (2013). *Intrinsic motivation and self-determination in human behavior*. Springer Science & Business Media.

DelGreco, L., Walop, W., & McCarthy, R. H. (1987). Questionnaire development : 2. Validity and reliability. *Clinical Epidemiology*, *136*(April 1), 699–700.

Demerouti, E., Bakker, A., Nachreiner, F., & Ebbinghaus, M. (2002). From mental strain to burnout. *European Journal of Work and Organizational Psychology*, *11*(4), 423–441. https://doi.org/10.1080/13594320244000274

Deneve, K. M., & Cooper, H. (1998). The happy personality: a meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin*, *124*(2), 197.

Denison, D. R. (1996). What *is* the Difference Between Organizational Culture and Organizational Climate? A Native's Point of View on a Decade of Paradigm Wars. *Academy of Management Review*. https://doi.org/10.5465/amr.1996.9702100310

Desa, A., Yusooff, F., Ibrahim, N., Kadir, N. B. A., & Rahman, R. M. A. (2014). A study of the Relationship and Influence of Personality on Job Stress among Academic Administrators at a University. *Procedia - Social and Behavioral Sciences*, *114*, 355–359. https://doi.org/10.1016/j.sbspro.2013.12.711

Dhamani, K. A., & Richter, M. S. (2011). Translation of research instruments: Research processes, pitfalls and challenges. *Africa Journal of Nursing and Midwifery*, *13*(1), 3–13.

Schweizerisches Zivilgesetzbuch (Änderung des Geschlechts im Personenstandsregister), Pub. L. No. Entwurf (2019).

Diener, E., & Lucas, R. E. (1999). 11 personality and subjective well-being. In *Well-being: Foundations of hedonic psychology* (213th ed.).

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective Weil-Being: Three Decades of Progress. *Psychological Bulletin*, *125*(2), 276–302. https://doi.org/10.1006/pupt.1998.0157

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method*. John Wiley & Sons.

Doody, O., & Doody, C. M. (2015). Conducting a pilot study: Case study of a novice researcher. *British Journal of Nursing*, *24*(21), 1074–1078. https://doi.org/10.12968/bjon.2015.24.21.1074

Dorociak, K. E., Rupert, P. A., & Zahniser, E. (2017). Work Life, well-being, and self-care across the professional lifespan of psychologists. *Professional Psychology: Research and Practice*, *48*(6), 429–437. https://doi.org/10.1037/pro0000160

Du Preez, N. D., & Louw, L. (2008). A framework for managing the innovation process. *PICMET '08 - 2008 Portland International Conference on Management of Engineering & Technology*, 546–558. https://doi.org/10.1109/PICMET.2008.4599663

Dubicka, B., & Bolton, J. (2020). *Psychiatrists see alarming rise in patients needing urgent and emergency care and forecast a "tsunami" of mental illness*.

Duffy, B., Mori, K. S., Terhanian, O. G., & Bremer, J. (2005). Comparing data from online and face-to-face surveys. *International Journal of Market Research*, *47*(6), 615–639.

Duncan, R. B. (1976). The ambidextrous organization: Designing dual structures for innovation. *The Management of Organization*, *1*, 167–188.

Dziuban, C. D., & Shirkey, E. C. (1974). When is a correlation matrix appropriate for factor analysis? Some decision rules. *Psychological Bulletin*, *81*(6), 358–361. https://doi.org/10.1037/h0036316

Easterby-Smith, M., Thorpe, R., Jackson, P. R., & Jaspersen, L. J. (2015). *Management & business research* (5th Edition (Ed.)). SAGE Publications Ltd.

Easterby-Smith, M., Thorpe, R., Jackson, P. R., & Jaspersen, L. J. (2018). *Management & business research* (6th ed.). SAGE Publications Inc.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, *44*(2), 350–383. https://doi.org/10.2307/2666999

Edmondson, A. C. (2002). Managing the risk of learning: Psychological safety in work teams Amy. In M. West (Ed.), *International Handbook of Organizational Teamwork*. Blackwell Publishing. papers2://publication/uuid/9D517F8C-4514-477E-A221-7D7240547AD2

Edmondson, A. C., & Lei, Z. (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. In *Annual Review of Organizational Psychology and Organizational Behavior* (Vol. 1, pp. 23–43). https://doi.org/10.1146/annurev-orgpsych-031413-091305

Edwards, J. R., & Lambert, L. S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, *12*(1), 1–22.

https://doi.org/10.1037/1082-989X.12.1.1

Eisenbeiss, S. A., van Knippenberg, D., & Boerner, S. (2008). Transformational leadership and team innovation: Integrating team climate principles. *Journal of Applied Psychology*, *93*(6), 1438–1446. https://doi.org/10.1037/a0012716

Eisenhardt, K. M., Furr, N. R., & Bingham, C. B. (2010). CROSSROADS—Microfoundations of Performance: Balancing Efficiency and Flexibility in Dynamic Environments. *Organization Science*, *21*(6), 1263–1273. https://doi.org/10.1287/orsc.1100.0564

Ekinci, Y. (2015). *Designing research questionnaires for business and management students*. Sage.

Engel, R. J., & Schutt, R. K. (2014). *Fundamentals of social work research*. Sage Publications.

Epstein, J., Santo, R. M., & Guillemin, F. (2015). A review of guidelines for cross-cultural adaptation of questionnaires could not bring out a consensus. *Journal of Clinical Epidemiology*, *68*(4), 435–441. https://doi.org/10.1016/j.jclinepi.2014.11.021

Eremenco, S. L., Cella, D., & Arnold, B. J. (2005). A comprehensive method for the translation and cross-cultural validation of health status questionnaires. *Evaluation and the Health Professions*, *28*(2), 212–232. https://doi.org/10.1177/0163278705275342

Ervasti, J., Aalto, V., Pentti, J., Oksanen, T., Kivimäki, M., & Vahtera, J. (2021). Association of changes in work due to COVID-19 pandemic with psychosocial work environment and employee health: a cohort study of 24 299 Finnish public sector employees. *Occupational and Environmental Medicine*, *0*, 1–9. https://doi.org/10.1136/OEMED-2021-107745

Evans, J. R., & Mathur, A. (2005). The value of online surveys. *Internet Research*, *15*(2), 195–219. https://doi.org/10.1108/10662240510590360

Fairchild, J., & Hunter, S. T. (2014). “We’ve got creative differences”: The effects of task conflict and participative safety on team creative performance. *Journal of Creative Behavior*, *48*(1), 64–87. https://doi.org/10.1002/jocb.41

Faisal Ahammad, M., Mook Lee, S., Malul, M., & Shoham, A. (2015). Behavioral Ambidexterity: The Impact of Incentive Schemes on Productivity, Motivation, and Performance of Employees in Commercial Banks. *Human Resource Management*, *54*(S1), 45–62. https://doi.org/10.1002/hrm.21668

Fischer, S., Frese, M., Mertins, J. C., Hardt, J. V., Flock, T., Schauder, J., Schmitz, M., & Wiegel, J. (2014). Climate for Personal Initiative and Radical and Incremental Innovation in Firms: A Validation Study. *Journal of Enterprising Culture*, *22*(01), 91–109. https://doi.org/10.1142/s0218495814500046

Fisher, R. T. (2001). Role Stress, the Type A Behavior Pattern, and External Auditor Job Satisfaction and Performance. *Behavioral Research in Accounting*, *13*(1), 143–170. https://doi.org/10.2308/bria.2001.13.1.143

Flaherty, J. A., Gaviria, F. M., Pathak, D., Mitchell, T., Wintrob, R., Richman, J. A., & Birz, S. (1988). Developing instruments for cross-cultural psychiatric research. *Journal of Nervous and Mental Disease*.

Florczak, C., Ludeke, S., Klemmensen, R., Nørgaard, A. S., & Arends, C. V. (2020). Do birds of a feather flock together? The personality traits of politicians and bureaucrats in decentralized government. *Personality and Individual Differences*, *163*(April). https://doi.org/10.1016/j.paid.2020.110065

Folkman, S. (1984). Personal control and stress and coping processes: A theoretical analysis. *Journal of Personality and Social Psychology*, *46*(4), 839–852. https://doi.org/10.1037/0022-3514.46.4.839

Folkman, S., & Lazarus, R. S. (1988). Coping as a Mediator of Emotion. *Journal of Personality and Social Psychology*, *54*(3), 466–475. https://doi.org/10.1037/0022-3514.54.3.466

Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, Coping, Health Status, and Psychological Symptoms. *Journal of Personality and Social Psychology*, *50*(3), 571–579. https://doi.org/10.1037/0022-3514.50.3.571

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50.

Forsyth, B. H., Kudela, M. S., Levin, K., Lawrence, D., & Willis, G. B. (2007). Methods for translating an English-language survey questionnaire on tobacco use into mandarin, Cantonese, Korean, and Vietnamese. *Field Methods*, *19*(3), 264–283. https://doi.org/10.1177/1525822X07302105

Fowler, F. J. (2013). *Survey research methods* (5th ed., Vol. 1). SAGE Publications Inc.

Fox, M. Lou. (1996). Assessment of personality and vocational interests: Redundant versus complementary. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *56*(12-B), 7044. http://www.il.proquest.com/umi/

Fox, N. J. (2008). Post-positivism. In L. M. Given (Ed.), *The SAGE Encyclopedia of Qualitative Research Methods* (Issue April, p. 11). SAGE Publications Inc.

Frei, R. L., & McDaniel, M. A. (1998). Validity of customer service measures in personnel selection: A review of criterion and construct evidence. *Human Performance*, *11*(1), 1–27.

Friedman, H. S., & Kern, M. L. (2014). Personality, well-being, and health. *Annual Review of Psychology*, *65*, 719–742. https://doi.org/10.1146/annurev-psych-010213-115123

FSO, F. S. O. (2020). *Swiss Earnings Structure Survey 2018*. Federal Statistical Office (FSO). https://www.bfs.admin.ch/bfs/en/home/statistics/work-income.html

Fuentes, A. (2011). Raising Education Outcomes in Switzerland. *OECD Economics Department Working Papers*, *838*. https://doi.org/10.1787/5kgj3l0wr4q6-en

Furnham, A., Guenole, N., Levine, S. Z., & Chamorro-Premuzic, T. (2013). The NEO Personality Inventory-Revised: Factor Structure and Gender Invariance From Exploratory Structural Equation Modeling Analyses in a High-Stakes Setting. *Assessment*, *20*(1), 14–23. https://doi.org/10.1177/1073191112448213

Gabler, C. B., Ogilvie, J. L., Rapp, A., & Bachrach, D. G. (2017). Is There a Dark Side of Ambidexterity? Implications of Dueling Sales and Service Orientations. *Journal of Service Research*, *20*(4), 379–392. https://doi.org/10.1177/1094670517712019

Gagné, M., Forest, J., Vansteenkiste, M., Crevier-Braud, L., van den Broeck, A., Aspeli, A. K., Bellerose, J., Benabou, C., Chemolli, E., Güntert, S. T., Halvari, H., Indiyastuti, D. L., Johnson, P. A., Molstad, M. H., Naudin, M., Ndao, A., Olafsen, A. H., Roussel, P., Wang, Z., & Westbye, C. (2015). The Multidimensional Work Motivation Scale: Validation evidence in seven languages and nine countries. *European Journal of Work and Organizational Psychology*, *24*(2), 178–196. https://doi.org/10.1080/1359432X.2013.877892

Ganster, D. C., & Schaubroeck, J. (1991). Work Stress and Employee Health. *Journal of Management*, *17*(2), 235–271. https://doi.org/10.1177/014920639101700202

Garcia, F. (2016). *Setting the Stage for Individual Ambidexterity in Organizations : The Effects of Context and Individual Regulatory Mode on Explorative and Exploitative Behavior*. 115.

Geerts, A., Blindenbach-Driessen, F., & Gemmel, P. (2010). Achieving a balance between exploration and exploitation in service firms: A longitudinal study. *Academy of Management 2010 Annual Meeting - Dare to Care: Passion and Compassion in Management Practice and Research, AOM 2010*. https://doi.org/10.5465/ambpp.2010.54493894

George, J. M. J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: an interactional approach. *Journal of Applied Psychology, 86*(3), 513. https://doi.org/10.1037/0021-9010.86.3.513

Gibbert, M., Nair, L. B., Weiss, M., & Hoegl, M. (2021). Using Outliers for Theory Building. *Organizational Research Methods*, *24*(1), 172–181. https://doi.org/10.1177/1094428119898877

Gibson, B., & Gibbs, L. (2006). Unpacking the concept of virtuality: The effects of geographic dispersion, electronic dependence, dynamic structure, and national diversity on team innovation. *Administrative Science Quarterly*, *51*(3), 451–495.

Gibson, C., & Birkinshaw, J. (2004). The antecedents, consequences, and mediating role of organizational ambidexterity. *Academy of Management Journal*, *47*(2), 209–226.

https://doi.org/10.2307/20159573

Glick, W. H. (1985). Conceptualizing and Measuring Organizational and Psychological Climate: Pitfalls in Multilevel Research. *Academy of Management Review*, *10*(3), 601–616. https://doi.org/10.5465/AMR.1985.4279045

Glisson, C., & James, L. R. (2002). The Cross-Level Effects of Culture and Climate in Human Service Teams. *Source Journal of Organizational Behavior Journal of Organizational Behavior J. Organiz. Behav*, *23*(6), 767–794. https://doi.org/10.1002/job.162

Goldberg, L. R. (1990). An Alternative "Description of Personality": The Big-Five Factor Structure. *Journal of Personality and Social Psychology*, *59*(6), 1216–1229. https://doi.org/10.1037/0022-3514.59.6.1216

Good, D., & Michel, E. J. (2013). Individual ambidexterity: Exploring and exploiting in dynamic contexts. *Journal of Psychology: Interdisciplinary and Applied*, *147*(5), 435–453. https://doi.org/10.1080/00223980.2012.710663

Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, *37*(6), 504–528. https://doi.org/10.1016/S0092-6566(03)00046-1

Graham, C., & Chattopadhyay, S. (2013). Gender and well-being around the world. *International Journal of Happiness and Development*, *1*(2), 212. https://doi.org/10.1504/ijhd.2013.055648

Grant, S., Langan-Fox, J., & Anglim, J. (2009). The big five traits as predictors of subjective and psychological well-being. *Psychological Reports*, *105*(1), 205–231.

Green, C. P., & Leeves, G. D. (2013). Job security, financial security and worker well-being: New evidence on the effects of flexible employment. *Scottish Journal of Political Economy*, *60*(2), 121–138. https://doi.org/10.1111/sjpe.12005

Greener, S. (2008). *Business research methods*. BookBoon.

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry*, *26*(1), 1–26. https://doi.org/10.1080/1047840X.2014.940781

Guba, E. G. (1990). The paradigm dialog. *Alternative Paradigms Conference, Mar, 1989, Indiana U, School of Education, San Francisco, CA, US*.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In *Handbook of qualitative research* (2nd ed., pp. 105–117). http://steinhardtapps.es.its.nyu.edu/create/courses/3311/reading/10-guba_lincoln_94.pdf

Guillemin, F., Claire, B., & Beaton, D. (1993). Cross-cultural adaptation of health-related quality of life measures: literature review and proposed guidelines. *Journal of Clinical Epidemiology*, *46*(12), 1417–1432. https://doi.org/10.1007/s10714-006-0272-7

Gupta, A. K., Smith, K. G., & Shalley, C. E. (2006). The Interplay between Exploration and Exploitation. In *The Academy of Management Journal* (Vol. 49, Issue 4).

Hadi, A. S. (1992). Identifying Multiple Outliers in Multivariate Data. *Journal of the Royal Statistical Society: Series B (Methodological)*, *54*(3), 761–771. https://doi.org/10.1111/j.2517-6161.1992.tb01449.x

Haeger, H., Lambert, A. D., Kinzie, J., & Gieser, J. (2012). Using Cognitive Interviews to Improve Survey Instruments. *Annual Forum of the Association for Institutional Research*, 15. http://cpr.indiana.edu/uploads/AIR2012 Cognitive Interviews.pdf

Hafkesbrink, J., & Schroll, M. (2014). Ambidextrous Organizational and Individual Competencies in Open Innovation: The Dawn of a new Research Agenda. *Journal of Innovation Management Hafkesbrink*, *2*(1), 9–46. http://www.open-jim.orghttp//creativecommons.org/licenses/by/3.0

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate data analysis: Pearson new international edition* (Seventh Ed). Pearson Education Limited.

Hall, D. T., & Heras, M. Las. (2012). Personal Growth Through Career Work: A Positive Approach to Careers. In *The Oxford Handbook of Positive Organizational Scholarship* (pp. 507–518).

https://doi.org/10.1093/oxfordhb/9780199734610.013.0038

Hallebone, E., & Priest, J. (2008). *Business and management research: paradigms and practices*. Macmillan International Higher Education.

Hammond, M. M., Neff, N. L., Farr, J. L., Schwall, A. R., & Zhao, X. (2011). Predictors of Individual-Level Innovation at Work: A Meta-Analysis. *Psychology of Aesthetics, Creativity, and the Arts*, *5*(1), 90–105. https://doi.org/10.1037/a0018556

Hampson, S. E. (2013). *Get Outside the Skin*. 315–339. https://doi.org/10.1146/annurev-psych-120710-100419.Personality

Han, C., & Zhang, S. (2021). Multiple strategic orientations and strategic flexibility in product innovation. *European Research on Management and Business Economics*, *27*(1), 100136. https://doi.org/10.1016/j.iedeen.2020.100136

Harkness, J. a, & Schoua-Glusberg, A. (1998). Questionnaires in Translation. *ZUMA-Nachrichten Spezial*, *1*, 87–126. http://isites.harvard.edu/fs/docs/icb.topic506406.files/znspez3_04_Harkness_Glusberg.pdf

Hauser, L. (2008). Work motivation in organizational behavior. *Economics, Management, and Financial Market*, *9*(4), 239–246. /citations?view_op=view_citation&continue=/scholar?hl=en&start=500&as_sdt=0,2&scilib=1&citilm=1&citation_for_view=o24DEGkAAAAJ:KlAtU1dfN6UC&hl=en&oi=p

Havermans, L. A., Den Hartog, D. N., Keegan, A. E., & Uhl-Bien, M. (2015). Exploring the Role of Leadership in Enabling Contextual Ambidexterity. *Human Resource Management*, *54*(1), 179–200.

He, Z.-L., & Wong, P.-K. (2004). Exploration vs. Exploitation: An Empirical Test of the Ambidexterity Hypothesis. *Organization Science*, *15*(4), 481–494. https://doi.org/10.1287/orsc.1040.0078

Heracleous, L., Papachroni, A., Andriopoulos, C., & Gotsi, M. (2017). Structural ambidexterity and competency traps: Insights from Xerox PARC. *Technological Forecasting and Social Change*, *117*, 327–338. https://doi.org/10.1016/j.techfore.2016.11.014

Herdman, M., Fox-Rushby, J., & Badia, X. (1997). "Equivalence" and the translation and adaptation of health-related quality of life questionnaires. *Quality of Life Research*, *6*(3), 237–247. https://doi.org/10.1023/A:1026410721664

Herdman, M., Fox-Rushby, J., & Badia, X. (1998). A model of equivalence in the cultural adaptation of HRQoL instruments: the universalist approach. *Quality of Life Research*, *7*(4), 323–335. http://www.sciencedirect.com/science/article/B7CSX-4B34Y33-13/2/e0f2878a74016c68e2197dfa4187df79

Heron, J., & Reason, P. (1997). A participatory inquiry paradigm. *Qualitative Inquiry*, *3*(3), 274–294.

Hersey, R. B. (1932). Rate of production and emotional state. *Personnel Journal*, *10*(000005), 355–364. http://dx.doi.org/10.1016/j.jaci.2012.05.050

Hofhuis, J., Mensen, M., ten Den, L. M., van den Berg, A. M., Koopman-Draijer, M., van Tilburg, M. C., Smits, C. H. M., & de Vries, S. (2018). Does functional diversity increase effectiveness of community care teams? The moderating role of shared vision, interaction frequency, and team reflexivity. *Journal of Applied Social Psychology*, *48*(10), 535–548. https://doi.org/10.1111/jasp.12533

Hofmann, J., Gander, F., & Ruch, W. (2018). Exploring differences in well-being across occupation type and skill. *Translational Issues in Psychological Science*, *4*(3), 290–303. https://doi.org/10.1037/tps0000167

Hofstee, W. K. B., de Raad, B., & Goldberg, L. R. (1992). Integration of the Big Five and Circumplex Approaches to Trait Structure. *Journal of Personality and Social Psychology*, *63*(1), 146–163. https://doi.org/10.1037/0022-3514.63.1.146

Holden, M. T., & Lynch, P. (2004). Choosing the appropriate methodology: Understanding research philosophy. *He Marketing Review*, *4*(4), 397–409.

Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work*

environments. Psychological Assessment Resources.

Holland, J. L. (1999). *Why interest inventories are also personality inventories.*

Holman, D., Johnson, S., & O'Connor, E. (2018). Stress management interventions: Improving subjective psychological well-being in the workplace. *Handbook of Well-Being*, 1–13.

Holmqvist, M., & Spicer, A. (2012). The Ambidextrous Employee: Exploiting and Exploring People's Potential. *Research in the Sociology of Organizations*, *37*, 1–23. https://doi.org/10.1108/S0733-558X(2013)0000037004

Hu, L.-T., & Bentler, P. M. (1995). *Evaluating model fit*. Sage Publications, Inc.

Huang, R. T., Chou, T. P., & Chen, C. P. (2017). Examining the roles of shared vision and career growth opportunity in developing new employees. *Journal of Organizational Change Management*, *30*(4), 599–609. https://doi.org/10.1108/JOCM-10-2016-0218

Hudek-Knežević, J., Maglica, B. K., & Krapić, N. (2011). Personality, organizational stress, and attitudes toward work as prospective predictors of professional burnout in hospital nurses. *Croatian Medical Journal*, *52*(4), 538–549. https://doi.org/10.3325/cmj.2011.52.538

Huebner, E. S. (1994). Relationships among demographics, social support, job satisfaction and burnout among school psychologists. *School Psychology International*, *15*(2), 181–186.

Hughes, J. L., Camden, A. A., & Yangchen, T. (2016). Rethinking and Updating Demographic Questions: Guidance to Improve Descriptions of Research Samples. *Psi Chi Journal of Psychological Research*, *21*(3), 138–151. https://doi.org/10.24839/2164-8204.jn21.3.138

Hughes, M. (2018). Organisational ambidexterity and firm performance: burning research questions for marketing scholars. *Journal of Marketing Management*, *34*(1–2), 178–229. https://doi.org/10.1080/0267257X.2018.1441175

Hülsheger, U. R., Anderson, N., & Salgado, J. F. (2009). Team-Level Predictors of Innovation at Work: A Comprehensive Meta-Analysis Spanning Three Decades of Research. *Journal of Applied Psychology*, *94*(5), 1128–1145 ©. https://doi.org/10.1037/a0015978

Huppert, F. A., & Johnson, D. M. (2010). A controlled trial of mindfulness training in schools; the importance of practice for an impact on well-being. *Journal of Positive Psychology*, *5*(February 2013), 264–274. https://mindfulnessinschools.org/wp-content/uploads/2013/03/Mindfulness-in-schools-pilot-study-2008.pdf

Huy, Q. N. (2001). In Praise of Managers. *Harvard Business Review*, *September*, 72–79. https://hbr.org/2001/09/in-praise-of-middle-managers

Hyman, L., Lamb, J., & Bulmer, M. (2006). The Use of Pre-Existing Survey Questions : Implications for Data Quality. *European Conference on Quality in Survey Statistics*, 3.

Iacobucci, D., Schneider, M. J., Popovich, D. L., & Bakamitsos, G. A. (2016). Mean centering helps alleviate "micro" but not "macro" multicollinearity. *Behavior Research Methods*, *48*(4), 1308–1317. https://doi.org/10.3758/s13428-015-0624-x

Idris, M. A., Dollard, M. F., & Yulita. (2014). Psychosocial safety climate, emotional demands, burnout, and depression: A longitudinal multilevel study in the Malaysian private sector. *Journal of Occupational Health Psychology*, *19*(3), 291–302. https://doi.org/10.1037/a0036599

Isaksen, S. G., & Akkermans, H. J. (2011). Creative climate: A leadership lever for innovation. *The Journal of Creative Behavior*, *45*(3), 161–187. https://doi.org/10.1002/j.2162-6057.2011.tb01425.x

Jackson, D. L. (2003). Revisiting sample size and number of parameter estimates: Some support for the N:q hypothesis. *Structural Equation Modeling*, *10*(1), 128–141. https://doi.org/10.1207/S15328007SEM1001_6

Jaiswal, N. K., & Dhar, R. L. (2015). Transformational leadership, innovation climate, creative self-efficacy and employee creativity: A multilevel study. *International Journal of Hospitality Management*, *51*, 30–41. https://doi.org/10.1016/j.ijhm.2015.07.002

Jakobsen, M., & Jensen, R. (2015). Common method bias in public management studies. *International*

Public Management Journal, *18*(1), 3–30. https://doi.org/10.1080/10967494.2014.997906

James, L. R., & Jones, A. P. (1974). Organizational climate: A review of theory and research. *Psychological Bulletin*, *81*(12), 1096–1112. https://doi.org/10.1037/h0037511

Jansen, J. J. P., George, G., Van den Bosch, F. A. J., & Volberda, H. W. (2008). Senior team attributes and organizational ambidexterity: The moderating role of transformational leadership. *Journal of Management Studies*, *45*(5), 982–1007. https://doi.org/10.1111/j.1467-6486.2008.00775.x

Jansen, J. J. P., Kostopoulos, K. C., Mihalache, O. R., & Papalexandris, A. (2016). A Socio-Psychological Perspective on Team Ambidexterity: The Contingency Role of Supportive Leadership Behaviours. *Journal of Management Studies*, *53*(6), 939–965. https://doi.org/10.1111/joms.12183

Jansen, J. J. P., Tempelaar, M. P., van den Bosch, F. A. J., & Volberda, H. W. (2009). Structural Differentiation and Ambidexterity: The Mediating Role of Integration Mechanisms. *Organization Science*, *20*(4), 797–811. https://doi.org/10.1287/orsc.1080.0415

Jasmand, C., Blazevic, V., & De Ruyter, K. (2012). Generating sales while providing service: A study of customer service representatives' ambidextrous behavior. *Journal of Marketing*, *76*(1), 20–37. https://doi.org/10.1509/jm.10.0448

Joffe, S., Cook, E. F., Cleary, P. D., Clark, J. W., & Weeks, J. C. (2001). Quality of informed consent: A new measure of understanding among research subjects. *Journal of the National Cancer Institute*, *93*(2), 139–147. https://doi.org/10.1093/jnci/93.2.139

John, O. P., Angleitner, A., & Ostendorf, F. (1988). The lexical approach to personality: A historical review of trait taxonomic research. *European Journal of Personality*, *2*(3), 171–203. https://doi.org/10.1002/per.2410020302

John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big Five Trait taxonomy: History, measurement, and conceptual issues. In *Handbook of personality: Theory and research* (pp. 114–158).

John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In *Handbook of personality: Theory and research* (2nd ed., pp. 102–138).

Johnson, J. A., & Ostendorf, F. (1993). Clarification of the Five-Factor Model With the Abridged Big Five Dimensional Circumplex. *Journal of Personality and Social Psychology*, *65*(3), 563–576. https://doi.org/10.1037/0022-3514.65.3.563

Jones, A. P., & James, L. R. (1979). Psychological climate: Dimensions and relationships of individual and aggregated work environment perceptions. *Organizational Behavior and Human Performance*, *23*(2), 201–250. https://doi.org/10.1016/0030-5073(79)90056-4

Jordan, P. J., & Troth, A. C. (2020). Common method bias in applied settings: The dilemma of researching in organizations. *Australian Journal of Management*, *45*(1), 3–14. https://doi.org/10.1177/0312896219871976

Junni, P., Sarala, R. M., Taras, V., & Tarba, S. Y. (2013). Organizational ambidexterity and performance: A meta-analysis. *Academy of Management Perspectives*, *27*(4), 299–312. https://doi.org/10.5465/amp.2012.0015

Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational Stress: Studies in Role Conflict and Ambiguity*. John Wiley & Sons Inc.

Karatepe, O. M., Yavas, U., Babakus, E., & Avci, T. (2006). Does gender moderate the effects of role stress in frontline service jobs? *Journal of Business Research*, *59*(10–11), 1087–1093. https://doi.org/10.1016/j.jbusres.2006.08.004

Karhu, P. (2017). *Cognitive ambidexterity: Examination of the cognitive dimension in decision-making dualities*. Acta Universitatis Lappeenrantaensis.

Karhu, P., & Ritala, P. (2018). Dilemmas and paradoxes: how managers make the toughest decisions. *Journal of Business Strategy*, *39*(1), 24–31. https://doi.org/10.1108/JBS-11-2016-0140

Kauppila, O. P., & Tempelaar, M. P. (2016). The Social-Cognitive Underpinnings of Employees' Ambidextrous Behaviour and the Supportive Role of Group Managers' Leadership. *Journal of Management Studies*, *53*(6), 1019–1044. https://doi.org/10.1111/joms.12192

Kazi, A. M., & Khalid, W. (2012). Questionnaire designing and validation. *Journal of the Pakistan Medical Association*, *62*(5), 514–516. http://ecommons.aku.edu/%5Cnhttp://ecommons.aku.edu/pakistan_fhs_mc_women_childhealth_paediatr/14

Keller, T. (2012). *Verhalten Zwischen Exploration Und Exploitation*. FERNUNIVERSITÄT IN HAGEN.

Keller, T. (2019). *Ambidextrie als Verhaltensprofil - Ein Überblick. In: , Band 2. September*.

Keller, T., & Weibler, J. (2014). Behind Managers' Ambidexterity — Studying Personality Traits, Leadership, and Environmental Conditions Associated with Exploration and Exploitation. *Schmalenbach Business Review*, *66*(3), 309–333. https://doi.org/10.1007/BF03396909

Keller, T., & Weibler, J. (2015). What It Takes and Costs To Be an Ambidextrous Manager: Linking Leadership and Cognitive Strain to Balancing Exploration and Exploitation. *Journal of Leadership and Organizational Studies*, *22*(1), 54–71. https://doi.org/10.1177/1548051814524598

Kim, B. C. P., Murrmann, S. K., & Lee, G. (2009). Moderating effects of gender and organizational level between role stress and job satisfaction among hotel employees. *International Journal of Hospitality Management*, *28*(4), 612–619. https://doi.org/10.1016/j.ijhm.2009.04.001

Kim, H. J., Shin, K. H., & Umbreit, W. T. (2007). Hotel job burnout: The role of personality characteristics. *International Journal of Hospitality Management*, *26*(2), 421–434. https://doi.org/10.1016/j.ijhm.2006.03.006

Kivimäki, M., & Elovainio, M. (1999). A short version of the Team Climate Inventory: Development and psychometric properties. *Journal of Occupational and Organizational Psychology*, *72*(2), 241–246. https://doi.org/10.1348/096317999166644

Kivimäki, M., Sutinen, R., Elovainio, M., Vahtera, J., Räsänen, K., Töyry, S., Ferrie, J. E. E., & Firth-Cozens, J. (2001). Sickness absence in hospital physicians: 2 Year follow up study on determinants. *Occupational and Environmental Medicine*, *58*(6), 361–366. https://doi.org/10.1136/oem.58.6.361

Klaiber, P., Wen, J. H., DeLongis, A., & Sin, N. L. (2021). The Ups and Downs of Daily Life During COVID-19: Age Differences in Affect, Stress, and Positive Events. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, *76*(2), e30–e37. https://doi.org/10.1093/geronb/gbaa096

Kline, R. B. (2015). *Principles and practice of structural equation modeling* (Fourth Edi). Guilford Publications Inc.

Kolbaşi, A., & Ünsal, A. (2019). A Comparison of the Outlier Detecting Methods : An Application on Turkish Foreign Trade Data. *Journal of Mathematics and Statistical Science*, *5*, 213–234.

Komarraju, M., Karau, S. J., Schmeck, R. R., & Avdic, A. (2011). The Big Five personality traits, learning styles, and academic achievement. *Personality and Individual Differences*, *51*(4), 472–477. https://doi.org/10.1016/j.paid.2011.04.019

Koryak, O., Lockett, A., Hayton, J., Nicolaou, N., & Mole, K. (2018). Disentangling the antecedents of ambidexterity: Exploration and exploitation. *Research Policy*, *47*(2), 413–427. https://doi.org/10.1016/j.respol.2017.12.003

Kovacs, C., Stiglbauer, B., Batinic, B., & Gnambs, T. (2018). Exploring Different Forms of Job (Dis)Satisfaction and Their Relationship with Well-Being, Motivation and Performance. *Applied Psychology*, *67*(3), 523–556. https://doi.org/10.1111/apps.12128

Kuenzi, M., & Schminke, M. (2009). Assembling fragments into a lens: A review, critique, and proposed research agenda for the organizational work climate literature. *Journal of Management*, *35*(3), 634–717. https://doi.org/10.1177/0149206308330559

Kuhn, T. S. (1962). *The structure of scientific revolutions*. University of Chicago press. https://doi.org/10.1525/aa.1972.74.4.02a00030

Kuzelewska, E. (2016). Language policy in Switzerland. *Studies in Logic, Grammar and Rhetoric*, *45*(1), 125–140. https://doi.org/10.1515/slgr-2016-0020

Kymlicka, W. (2003). Multicultural States and Intercultural Citizens. *Theory and Research in Education*, *1*(2), 147–169. https://doi.org/10.1177/1477878503001002001

Kyriazos, T. A. (2018). Applied Psychometrics: Sample Size and Sample Power Considerations in Factor Analysis (EFA, CFA) and SEM in General. *Psychology*, *09*(08), 2207–2230. https://doi.org/10.4236/psych.2018.98126

Lang, F. R., John, D., Lüdtke, O., Schupp, J., & Wagner, G. G. (2011). Short assessment of the Big Five: Robust across survey methods except telephone interviewing. *Behavior Research Methods*, *43*(2), 548–567. https://doi.org/10.3758/s13428-011-0066-z

Language – facts and figures. (2019). Federal Department of Foreign Affairs FDFA. https://www.eda.admin.ch/aboutswitzerland/en/home/gesellschaft/sprachen/die-sprachen---fakten-und-zahlen.html

Larsen, R. (2009). The contributions of positive and negative affect to emotional weil-being. *Psihologijske Teme*, *18*(2), 247–266.

Laureiro-Martínez, D., Brusoni, S., Canessa, N., & Zollo, M. (2015). Understanding the exploration-exploitation dilemma: An fMRI study of attention control and decision-making performance. *Strategic Management Journal*, *36*(3), 319–338. https://doi.org/10.1002/smj.2221

Laureiro-Martínez, D., Brusoni, S., & Zollo, M. (2010). The Neuroscientific Foundations of the Exploration-Exploitation Dilemma. *Journal of Neuroscience, Psychology, and Economics*, *3*(2), 95–115. https://doi.org/10.1037/a0018495

Lavie, D., Stettner, U., & Tushman, M. L. (2010). Exploration and exploitation within and across organizations. *Academy of Management Annals*, *4*(1), 109–155. https://doi.org/10.1080/19416521003691287

Lazarus, R. S. (1966). *Psychological stress and the coping process*. McGraw-Hill.

Lazarus, R. S. (2006). *Stress and emotion: A new synthesis*. Springer Publishing Company.

Lazarus, R. S., Baker, R. W., Broverman, D. M., & Mayer, J. (1957). Personality and Psychological Stress. *Journal of Personality*, *25*(5), 559–577. https://doi.org/10.1111/j.1467-6494.1957.tb01548.x

Lazarus, R. S., & Flokman, S. (1986). Cognitive theories of stress and the issue of circularity. In *Dynamics of stress* (pp. 63–80). Springer.

Lazarus, R. S., Speisman, J. C., & Mordkoff, A. M. (1963). The relationship between autonomic indicators of psychological stress: Heart rate and skin conductance. *Psychosomatic Medicine*, *25*(1), 19–30.

Lenzner, T., Hadler, P., Neuert, C., Klingler, M., Wolf, M., & Sarafoglou, A. (2019). *Demographische Standards: Kognitiver Pretest*.

Leung, K., Huang, K. L., Su, C. H., & Lu, L. (2011). Curvilinear relationships between role stress and innovative performance: Moderating effects of perceived support for innovation. *Journal of Occupational and Organizational Psychology*, *84*(4), 741–758. https://doi.org/10.1348/096317910X520421

Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal*, *14*(2 S), 95–112. https://doi.org/10.1002/smj.4250141009

Leys, C., Klein, O., Dominicy, Y., & Ley, C. (2018). Detecting multivariate outliers: Use a robust variant of the Mahalanobis distance. *Journal of Experimental Social Psychology*, *74*(March 2017), 150–156. https://doi.org/10.1016/j.jesp.2017.09.011

Li, C. R., Lin, C. J., & Tien, Y. H. (2015). CEO transformational leadership and top manager ambidexterity: An empirical study in Taiwan SMEs. *Leadership and Organization Development Journal*, *36*(8), 927–954. https://doi.org/10.1108/LODJ-03-2014-0054

Liebermann, S. C., Blenckner, K., Diehl, J.-H., Feilke, J., Frei, C., Grikscheit, S., Hünsch, S., Kohring,

K., Lay, J., & Reinhardt, J. (2021). Abrupt Implementation of Telework in the Public Sector During the COVID-19 Crisis. *Zeitschrift Für Arbeits-Und Organisationspsychologie A&O*, *65*(4), 258–266.

Lin, W., Ma, J., Wang, L., & Wang, M. (2015). A double-edged sword: The moderating role of conscientiousness in the relationships between work stressors, psychological strain, and job performance. *Journal of Organizational Behavior*, *36*(1), 94–111. https://doi.org/10.1002/job.1949

Little, T. D., Bovaird, J. A., & Widaman, K. F. (2006). On the merits of orthogonalizing powered and product terms: Implications for modeling interactions among latent variables. *Structural Equation Modeling*, *13*(4), 497–519. https://doi.org/10.1207/s15328007sem1304_1

Liu, C., Spector, P. E., & Shi, L. (2008). Use of Both Qualitative and Quantitative Approaches to Study Job Stress in Different Gender and Occupational Groups. *Journal of Occupational Health Psychology*, *13*(4), 357–370. https://doi.org/10.1037/1076-8998.13.4.357

Liu, Y., Collinson, S., Cooper, S. C., & Baglieri, D. (2021). International business, innovation and ambidexterity: A micro-foundational perspective. *International Business Review*. https://doi.org/10.1016/j.ibusrev.2021.101852

Loehlin, J. C. (2004). *Latent Variable Models: An Introduction to Factor, Path, and Structural Analysis* (Fourth Edi). Lawrence Erlbaum Associates, Inc. https://doi.org/10.2307/1165058

Lovallo, W. R. (2015). *Stress and health: Biological and psychological interactions*. Sage publications.

Lovelace, K., Shapiro, D. L., & Weingart, L. R. (2001). Maximizing cross-functional new product teams' innovativeness and constraint adherence: A conflict communications perspective. *Academy of Management Journal*, *44*(4), 779–793. https://doi.org/10.2307/3069415

Lowik, S., Rietberg, A., & de Visser, M. (2016). Resolving the paradox of ambidextrous R&D routines: how to turn engineers into chameleons. *R&D Management Conference 2016: From Science to Society: Innovation and Value Creation, 3-6 July 2016, Churchill College, Cambridge*.

Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small-to medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of Management*, *32*(5), 646–672. https://doi.org/10.1177/0149206306290712

Lucas, H. C., & Goh, J. M. (2009). Disruptive technology: How Kodak missed the digital photography revolution. *Journal of Strategic Information Systems*, *18*(1), 46–55. https://doi.org/10.1016/j.jsis.2009.01.002

Lucas, R. E., & Diener, E. (2009). Personality and Subjective Well-Being. In *The science of well-being: The collected works of Ed Diener* (Vol. 37, pp. 75–102). Springer Science+Business Media B.V. http://link.springer.com/10.1007/978-90-481-2350-6

Lui, P. P., Samuel, D. B., Rollock, D., Leong, F. T., & Chang, E. C. (2020). Measurement invariance of the five factor model of personality: Facet-level analyses among Euro and Asian Americans. *Assessment*, *27*(5), 887–902. http://www.ghbook.ir/index.php?name=های رسانه و فرهنگ نوین&option=com_dbook&task=readonline&book_id=13650&page=73&chkhashk=ED9C9491B4&Itemid=218&lang=fa&tmpl=component%0Ahttp://www.albayan.ae%0Ahttps://scholar.google.co.id/scholar?hl=en&q=APLIKASI+PENGENA

Lunau, T., Siegrist, J., Dragano, N., & Wahrendorf, M. (2015). The association between education and work stress: Does the policy context matter? *PLoS ONE*, *10*(3), 1–17. https://doi.org/10.1371/journal.pone.0121573

Lundqvist, D., Reineholm, C., Gustavsson, M., & Ekberg, K. (2013). Investigating Work Conditions and Burnout at Three Hierarchical Levels. *Journal of Occupational and Environmental Medicine*, *55*(10), 1157–1163. https://doi.org/10.1097/JOM.0b013e31829b27df

Lussenhop, A. (2018). Beyond the Male/female Binary: Gender Equity and Inclusion in Evaluation Surveys. *Journal of Museum Education*, *43*(3), 194–207. https://doi.org/10.1080/10598650.2018.1484201

Ma, Y., & Corter, J. E. (2019). The effect of manipulating group task orientation and support for innovation on collaborative creativity in an educational setting. *Thinking Skills and Creativity*, *33*(July), 100587. https://doi.org/10.1016/j.tsc.2019.100587

MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly: Management Information Systems*, *35*(2), 293–334. https://doi.org/10.2307/23044045

Mafini, C. (2016). The Contribution of Organisational Climate to Employee Well-Being. *Journal of Applied Business Research*, *32*(4), 1157–1168.

Mäkikangas, A., Feldt, T., & Kinnunen, U. (2007). Warr's scale of job-related affective well-being: A longitudinal examination of its structure and relationships with work characteristics. *Work and Stress*, *21*(3), 197–219. https://doi.org/10.1080/02678370701662151

Mäkikangas, A., Rantanen, J., Bakker, A. B., Kinnunen, M. L., Pulkkinen, L., & Kokko, K. (2015). The circumplex model of occupational well-being: Its relation with personality. *Journal for Person-Oriented Research*, *1*(3), 111–112. https://doi.org/10.17505/jpor.2015.11

Malhotra, N. K., & Birks, D. F. (2006). *Marketing research: An applied approach* (Updated Se). Prentice Hall.

Mallinckrodt, B., & Wang, C. C. (2004). Quantitative methods for verifying semantic equivalence of translated research instruments: A Chinese version of the experiences in close relationships scale. *Journal of Counseling Psychology*, *51*(3), 368–379. https://doi.org/10.1037/0022-0167.51.3.368

Maniaci, M. R., & Rogge, R. D. (2014). Caring about carelessness: Participant inattention and its effects on research. *Journal of Research in Personality*, *48*(1), 61–83. https://doi.org/10.1016/j.jrp.2013.09.008

Mansfield, C. F. (2020). *Cultivating teacher resilience: International approaches, applications and impact*. Springer Nature. https://doi.org/10.1007/978-981-15-5963-1_1

March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, *2*(1), 71. https://doi.org/10.1287/orsc.2.1.71

Marić, M., Hernaus, T., Tadić Vujčić, M., & Černe, M. (2019). Job characteristics and organizational citizenship behavior: A multisource study on the role of work engagement. *Drustvena Istrazivanja*, *28*(1), 25–45. https://doi.org/10.5559/di.28.1.02

Marsh, H. W., Lüdtke, O., Muthén, B., Asparouhov, T., Morin, A. J. S., Trautwein, U., & Nagengast, B. (2010). A New Look at the Big Five Factor Structure Through Exploratory Structural Equation Modeling. *Psychological Assessment*, *22*(3), 471–491. https://doi.org/10.1037/a0019227

Marsh, H. W., Nagengast, B., & Morin, A. J. S. (2013). Measurement invariance of big-five factors over the life span: ESEM tests of gender, age, plasticity, maturity, and la dolce vita effects. *Developmental Psychology*, *49*(6), 1194–1218. https://doi.org/10.1037/a0026913

Martin, W. E., & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results*. John Wiley & Sons, Incorporated.

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*(2), 99–113. https://doi.org/10.1002/job.4030020205

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*(2), 397–422. https://doi.org/10.1146/annurev.psych.52.1.397

Mathisen, G. E., & Einarsen, S. (2004). A Review of Instruments Assessing Creative and Innovative Environments Within Organizations. *Creativity Research Journal*, *16*(1), 119–140. https://doi.org/10.1207/s15326934crj1601_12

Matsunaga, M. (2010). How to Factor-Analysis Your Data: Do's, Don'ts, and How-to's. *International Journal of Psychological Research*, *3*(1), 97–110.

Matthews, G., Deary, I. J., & Whiteman, M. C. (2009). *Personality Traits* (3rd ed.). Cambridge University Press.

Matthews, R. A., Bulger, C. A., & Barnes-Farrell, J. L. (2010). Work social supports, role stressors, and work-family conflict: The moderating effect of age. *Journal of Vocational Behavior*, *76*(1), 78–90. https://doi.org/10.1016/j.jvb.2009.06.011

McCrae, Robert R. Zonderman, A. B., Costa Jr, P. T., Bond, M. H., & Paunonen, S. V. (1996). Evaluating replicability of factors in the Revised NEO Personality Inventory: Confirmatory factor analysis versus Procrustes rotation. *Journal of Personality and Social Psychology*, *70*(3), 552.

McCrae, R. R. (1996). Social Consequences of Experiential Openness. *Psychological Bulletin*, *122*(3), 323–337. https://doi.org/10.1037//0033-2909.120.3.323

McCrae, R. R. (2009). The Five-Factor Model of personality traits: consensus and controversy. In *The Cambridge handbook of personality psychology* (pp. 148–161). Cambridge University Press.

McCrae, R. R., & Costa Jr., P. T. (1991). Adding Liebe und Arbeit: The full five-factor model and well-being. *Personality and Social Psychology Bulletin*, *17*(2), 227–232. https://doi.org/10.1080/03610738308258426

McCrae, R. R., John, O. P., Bond, M., Borkenau, P., Buss, D., Costa, P., Fiske, D., Goldberg, L., Hogan, R., & Norman, W. (1992). An Introduction to the Five-Factor Model and Its Applications. *Journal of Personality*, *60*(2), 175–215.

McCrae, R. R., Kurtz, J. E., Yamagata, S., & Terracciano, A. (2011). Internal consistency, retest reliability, and their implications for personality scale validity. *Personality and Social Psychology Review*, *15*(1), 28–50. https://doi.org/10.1177/1088868310366253

McDonald, R. P., & Ho, M. H. R. (2002). Principles and practice in reporting structural equation analyses. *Psychological Methods*, *7*(1), 64–82. https://doi.org/10.1037/1082-989X.7.1.64

Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, *17*(3), 437–455. https://doi.org/10.1037/a0028085

Meadows, K. A. (2003). So you want to do research? 5: Questionnaire design. *British Journal of Community Nursing*, *8*(12), 562–570. https://doi.org/10.12968/bjcn.2003.8.12.11854

Meister, O. (2013). *Applied method of inner company innovation management at Swiss Post*. University of Applied Sciences and Arts Northern Switzerland.

Memarzadeh Tehran, G., & Khaledi, F. (2014). An investigation on the effects of personal characteristics on creativity and innovation. *Management Science Letters*, *4*(7), 1495–1498. https://doi.org/10.5267/j.msl.2014.6.014

Michael Crant, J. (1996). The Proactive Personality Scale as a Predeictor of Entrepreneurial Intentions. *Journal of Small Business Management*, *34*(3), 1–11.

Mielniczuk, E., & Łaguna, M. (2018). The factorial structure of job-related affective well-being: Polish adaptation of the warr's measure. *International Journal of Occupational Medicine and Environmental Health*, *31*(4), 429–443. https://doi.org/10.13075/ijomeh.1896.01178

Miron-Spektor, E., Ingram, A., Keller, J., Smith, W. K., & Lewis, M. W. (2018a). Microfoundations of Organizational Paradox: Paradox Mindset, Limited Resources and Tensions. *Academy of Management Journal*, *61*(1), 26–45. https://doi.org/10.5465/AMBPP.2017.10930abstract

Miron-Spektor, E., Ingram, A., Keller, J., Smith, W. K., & Lewis, M. W. (2018b). Microfoundations of organizational paradox: The problem is how we think about the problem. *Academy of Management Journal*, *61*(1), 26–45. https://doi.org/10.5465/amj.2016.0594

Miron, E., Erez, M., & Naveh, E. (2004). Do personal characteristics and cultural values that promote innovation, quality, and efficiency compete or complement each other? *Journal of Organizational Behavior*, *25*(2), 175–199. https://doi.org/10.1016/j.yhbeh.2016.09.012

Moen, P. (1996). A life course perspective on retirement, gender, and well-being. *Journal of Occupational Health Psychology*, *1*(2), 131–144. https://doi.org/10.1037/1076-8998.1.2.131

Mom, T. (2006). *Managers' Exploration and Exploitation Activities: The Influence of Organizational Factors and Knowledge Inflows*. Erasmus University Rotterdam, Netherlands.

Mom, T. J. M., Chang, Y. Y., Cholakova, M., & Jansen, J. J. P. (2018). A Multilevel Integrated Framework of Firm HR Practices, Individual Ambidexterity, and Organizational Ambidexterity. *Journal of Management*, *XX*(X), 1–26. https://doi.org/10.1177/0149206318776775

Mom, T. J. M., Fourné, S. P. L., & Jansen, J. J. P. (2015). Managers' Work Experience, Ambidexterity,

and Performance: The Contingency Role of the Work Context. *Human Resource Management*, *54*(December), s133–s153. https://doi.org/10.1002/hrm.21663

Mom, T. J. M., van den Bosch, F. A. J., & Volberda, H. W. (2009). Understanding Variation in Managers' Ambidexterity: Investigating Direct and Interaction Effects of Formal Structural and Personal Coordination Mechanisms. *Organization Science*, *20*(4), 812–828. https://doi.org/10.1287/orsc.1090.0427

Mom, T. J. M., Van Den Bosch, F. A. J., & Volberda, H. W. (2007). Investigating managers' exploration and exploitation activities: The influence of top-down, bottom-up, and horizontal knowledge inflows. *Journal of Management Studies*, *44*(6), 910–931. https://doi.org/10.1111/j.1467-6486.2007.00697

Morel, D. (2014). Swiss post and public administration: from physical to digital. In *Postal Services in the Digital Age* (pp. 109–119). IOS Press.

Mount, M. K., Barrick, M. R., Scullen, S. M., & Rounds, J. (2005). Higher order dimensions of the Big Five personality traits and the Big Six interests. *Personality and Social Psychology Bulletin*, *47*(2), 447–478. https://doi.org/10.1207/S15327965PLI1104

Muthén, L. K., & Muthén, B. (2002). How To Use A Monte Carlo Study To Decide On Sample Size and Determine Power. *Structural Equation Modeling*, *9*(4), 599–620. http://www.statmodel.com/bmuthen/articles/Article_096.pdf

Narainsamy, K., & Van Der Westhuizen, S. (2013). Work related well-being: Burnout, work engagement, occupational stress and job satisfaction within a medical laboratory setting. *Journal of Psychology in Africa*, *23*(3), 467–474. https://doi.org/10.1080/14330237.2013.10820653

Neal, A., Yeo, G., Koy, A., & Xiao, T. (2012). Predicting the form and direction of work role performance from the Big 5 model of personality traits. *Journal of Organizational Behavior*, *33*(2), 175–192. https://doi.org/10.1002/job.742

Nemanich, L. A., & Vera, D. (2009). Transformational leadership and ambidexterity in the context of an acquisition. *The Leadership Quarterly*, *20*(1), 19–33. https://doi.org/10.1016/j.leaqua.2008.11.002

Neuman, W. L. (2014). Social Research Methods: Qualitative and Quantitative Approaches. In *Relevance of social research* (Vol. 8). https://doi.org/10.2307/3211488

Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: A systematic review of the literature. *Human Resource Management Review*, *27*. https://doi.org/10.1016/j.hrmr.2017.01.001

Ng, T. W., & Feldman, D. C. (2015). The moderating effects of age in the relationships of job autonomy to work outcomes. *Work, Aging and Retirement*, *1*(1), 64–78.

Nickerson, J. A., & Zenger, T. R. (2002). Being Efficiently Fickle: A Dynamic Theory of Organizational Choice. *Organization Science*, *13*(5), 547–566.

Nie, Y., Chua, B. L., Yeung, A. S., Ryan, R. M., & Chan, W. Y. (2015). The importance of autonomy support and the mediating role of work motivation for well-being: Testing self-determination theory in a Chinese work organisation. *International Journal of Psychology*, *50*(4), 245–255. https://doi.org/10.1002/ijop.12110

Nikolaou, I., & Foti, K. (2018a). Personnel Selection a nd Personality. *The SAGE Handbook of Personality and Individual Differences: Volume III: Applications of Personality and Individual Differences*, *January*, 458–474. https://doi.org/10.4135/9781526451248.n20

Nikolaou, I., & Foti, K. (2018b). Personnel Selection and Personality. In *The SAGE Handbook of Personality and Individual Differences* (Vol. 3, Issue June, pp. 458–474). https://doi.org/10.4135/9781526451248.n20

Nyberg, A., Leineweber, C., & Magnusson Hanson, L. (2015). Gender differences in psychosocial work factors, work–personal life interface, and well-being among Swedish managers and non-managers. *International Archives of Occupational and Environmental Health*, *88*(8), 1149–1164. https://doi.org/10.1007/s00420-015-1043-0

O'Reilly, C. A., & Tushman, M. L. (2004). The ambidextrous organization. *Harvard Business Review*,

82(4), 74–81.

O'Reilly, C. A., & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. *Research in Organizational Behavior*, *28*, 185–206. https://doi.org/10.1016/j.riob.2008.06.002

O'Reilly, C. A., & Tushman, M. L. (2011). Organizational Ambidexterity in Action: How Managers Explore and Exploit. *California Management Review*, *53*(4). https://doi.org/10.1525/cmr.2011.53.4.5

O'Reilly, C. A., & Tushman, M. L. (2013). Organizational Ambidexterity: Past, Present and Future. *Academy of Management Perspectives*, *27*(4), 324–338. https://doi.org/10.5465/amp.2013.0025

Oh, I. S., Kim, S., & Van Iddekinge, C. H. (2015). Taking it to another level: Do personality-based human capital resources matter to firm performance? *Journal of Applied Psychology*, *100*(3), 935–947. https://doi.org/10.1037/a0039052

Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, *39*(3), 607–634. https://doi.org/10.2307/256657

Oldham, G. R., & Fried, Y. (2016). Job design research and theory: Past, present and future. *Organizational Behavior and Human Decision Processes*, *136*, 20–35. https://doi.org/10.1016/j.obhdp.2016.05.002

Othman, N. (2010). *The Effect of Work Motivation on Teacher ' s Work Performance in Pekanbaru Senior High Schools , Riau Province , Indonesia*. *3*(2), 259–272.

Ovidiu-Iliuta, D. (2013). Employee motivation and organizational performance. In *Review of Applied Socio-Economic Research* (Vol. 5, Issue 1, pp. 53–60). http://dx.doi.org/10.1016/j.jaci.2012.05.050

Ozer, D. J., & Benet-Martínez, V. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology*, *57*, 401–421. https://doi.org/10.1146/annurev.psych.57.102904.190127

Pallant, J. (2016). *SPSS Survival Manual* (6th editio). Open University Press.

Palsson, T. S., Christensen, S. W. M. P., Pape, M. H., Hirata, R. P., Rafn, T., & Skou, S. T. (2020). Cross-cultural adaptation of the Danish version of the Big Five Inventory-a dual-panel approach. *Scandinavian Journal of Pain*, *20*(2), 397–406. https://doi.org/10.1515/sjpain-2019-0066

Pap, L. (1990). The language situation in Switzerland: An updated survey. *Lingua*, *80*, 109–148.

Papachroni, A., Heracleous, L., & Paroutis, S. (2015). Organizational ambidexterity through the lens of paradox theory: Building a novel research agenda. *The Journal of Applied Behavioral Science*, *51*(1), 71–93.

Papachroni, A., Heracleous, L., & Paroutis, S. (2016). In pursuit of ambidexterity: Managerial reactions to innovation–efficiency tensions. *Human Relations*, *69*(9), 1791–1822. https://doi.org/10.1177/0018726715625343

Parke, C. (2015). Module 5: Identifying and Addressing Outliers. *Essential First Steps to Data Analysis: Scenario-Based Examples Using SPSS*, 81–102. https://doi.org/10.4135/9781506335148.n5

Parker, S. K. (1998). Enhancing role breadth self-efficacy: The roles of job enrichment and other organizational interventions. *Journal of Applied Psychology*, *83*(6), 835.

Parker, S. K. (2014). Beyond Motivation: Job and Work Design for Development, Health, Ambidexterity, and More. *Annual Review of Psychology Is*, *65*(661–9), 661–691. https://doi.org/10.1146/annurev-psych-010213-115208

Patterson, M. G., West, M. A., Shackleton, V. I. V. J., Dawson, J. F., Lawthom, R., Maitlis, S., Robinson, D. L., & Wallace, A. M. (2005). Validating the organizational climate measure: links to managerial practices, productivity and innovation. *Journal of Organizational Behavior*, *26*, 379–408. http://onlinelibrary.wiley.com.elib.openu.ac.il/doi/10.1002/job.312/full

Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3 ed.). Sage Publications.

https://books.google.ch/books?id=FjBw2oi8El4C&printsec=frontcover&hl=de&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

Paulin, D., & Griffin, B. (2016). The relationships between incivility, team climate for incivility and job-related employee well-being: a multilevel analysis. *Work and Stress*, *30*(2), 132–151. https://doi.org/10.1080/02678373.2016.1173124

Peeters, M. C. W., Jonge, J. de, & Taris, T. W. (2014). An Introduction to Contemporary Work Psychology. *Wiley Blackwell*, *First Edit*, 512. https://books.google.nl/books?hl=nl&lr=&id=DXVGAQAAQBAJ&oi=fnd&pg=PT12&dq=an+introduction+to+contemporary+work+psychology&ots=CPi_ES1EUm&sig=ee0ix3wYTCTAOo0p6pPKkwj7drI

Pertusa-Ortega, E. M., Molina-Azorín, J. F., Tarí, J. J., Pereira-Moliner, J., & López-Gamero, M. D. (2020). The microfoundations of organizational ambidexterity: A systematic review of individual ambidexterity through a multilevel framework. *BRQ Business Research Quarterly*, *24*(4), 355–371. https://doi.org/10.1177/2340944420929711

Peter, K. A., Schols, J. M. G. A., Halfens, R. J. G., & Hahn, S. (2020). Investigating work-related stress among health professionals at different hierarchical levels: A cross-sectional study. *Nursing Open*, *7*(4), 969–979. https://doi.org/10.1002/nop2.469

Peterson, M. F., Smith, P. B., Akande, A., Ayestaran, S., Bochner, S., Callan, V., Cho, N. G., Jesuino, J. C., D'Amorim, M., Francois, P.-H., Hofmann, K., Koopman, P. L., Leung, K., Lim, T. K., Mortazavi, S., Munene, J., Radford, M., Ropo, A., Savage, G., … Viedge, C. (1995). Role Conflict, Ambiguity, and Overload: A 21-Nation Study. *Academy of Management Journal*, *38*(2), 429–452. https://doi.org/10.5465/256687

Phillips, D. C., & Burbules, N. C. (2000). *Postpositivism and educational research*. Rowman & Littlefield.

Piedmont, R. L. (1993). A longitudinal analysis of burnout in the health care setting: The role of personal dispositions. *Journal of Personality Assessment*, *61*(3), 457–473.

Plaisant, O., Courtois, R., Réveillère, C., Mendelsohn, G. A., & John, O. P. (2010). Validation par analyse factorielle du Big Five Inventory français (BFI-Fr). Analyse convergente avec le NEO-PI-R. *Annales Medico-Psychologiques*, *168*(2), 97–106. https://doi.org/10.1016/j.amp.2009.09.003

Plaisant, O., Srivastava, S., Mendelsohn, G. A., Debray, Q., & John, O. P. (2005). Relations entre le Big Five Inventory français et le manuel diagnostique des troubles mentaux dans un échantillon clinique français. *Annales Medico-Psychologiques*, *163*(2), 161–167. https://doi.org/10.1016/j.amp.2005.02.002

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of Method Bias in Social Science Research and Recommendations on How to Control It. *Annual Review of Psychology*, *63*(1), 539–569. https://doi.org/10.1146/annurev-psych-120710-100452

Podsakoff, P. M., & Organ, D. W. (1986). Self-Reports in Organizational Research: Problems and Prospects. *Journal of Management*, *12*(4), 531–544. https://doi.org/10.1177/014920638601200408

Pons, F. J., Ramos, J., & Ramos, A. (2016). Antecedent variables of innovation behaviors in organizations: Differences between men and women. *Revue Europeenne de Psychologie Appliquee*, *66*(3), 117–126. https://doi.org/10.1016/j.erap.2016.04.004

Post, S. (Ed.). (2011). *Gelb bewegt. Die Schweizerische Post ab 1960*. Stämpfli Verlag.

Presser, S., Couper, M. P., Lessler, J. T., Martin, E., Martin, J., Rothgeb, J. M., & Singer, E. (2004). Methods for testing and evaluating survey questions. *Public Opinion Quarterly*, *68*(1), 109–130. https://doi.org/10.1093/poq/nfh008

Prieto, I. M., & Pilar Pérez Santana, M. (2012). Building ambidexterity: The role of human resource practices in the performance of firms from Spain. *Human Resource Management*, *51*(2), 189–

211.

Rafferty, A. E., & Jimmieson, N. L. (2010). Team change climate: A group-level analysis of the relationships among change information and change participation, role stressors, and well-being. *European Journal of Work and Organizational Psychology*, *19*(5), 551–586. https://doi.org/10.1080/13594320903007869

Rahim, N. B., & Siti-Rohaida, M. Z. (2016). The Influence of Proactive Career Behaviours on Psychological Well-being among Malaysian Engineers. *Global Business Review*, *17*(May), 30S-44S. https://doi.org/10.1177/0972150916631074

Råholm, M. B., Thorkildsen, K., & Löfmark, A. (2010). Translation of the Nursing Clinical Facilitators Questionnaire (NCFQ) to Norwegian language. *Nurse Education in Practice*, *10*(4), 196–200. https://doi.org/10.1016/j.nepr.2009.08.005

Raiden, A., & Räisänen, C. (2018). Conceptualising behavioural ambidexterity and the effects on individual well-being. *Proceeding of the 34th Annual ARCOM Conference*, *September*, 736–745.

Raiden, A., Räisänen, C., & Kinman, G. (2020). Behavioural ambidexterity: effects on individual well-being and high performance work in academia. *Journal of Further and Higher Education*, *44*(4), 568–582. https://doi.org/10.1080/0309877X.2019.1596232

Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management*, *34*(3), 375–409. https://doi.org/10.1177/0149206308316058

Raisch, S., Birkinshaw, J., Probst, G., & Tushman, M. L. (2009). Organizational Ambidexterity: Balancing Exploitation and Exploration for Sustained Performance. *Organization Science*, *20*(4), 685–695. https://doi.org/10.1287/orsc.1090.0428

Rammstedt, B., Danner, D., Soto, C. J., & John, O. P. (2018). Validation of the Short and Extra-Short Forms of the Big Five Inventory-2 (BFI-2) and Their German Adaptations. *European Journal of Psychological Assessment*, *36*(1), 149–161. https://doi.org/10.1027/1015-5759/a000481

Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German. *Journal of Research in Personality*, *41*(1), 203–212. https://doi.org/10.1016/j.jrp.2006.02.001

Ramos, R., Jenny, G., & Bauer, G. (2016). Age-related effects of job characteristics on burnout and work engagement. *Occupational Medicine*, *66*(3), 230–237. https://doi.org/10.1093/occmed/kqv172

Rao-Nicholson, R., Khan, Z., Akhtar, P., & Merchant, H. (2016). The impact of leadership on organizational ambidexterity and employee psychological safety in the global acquisitions of emerging market multinationals. *The International Journal of Human Resource Management*, *27*(20), 2461–2487.

Rao, D. S., & Reddy, A. V. (2013). An examination of the role of conceptualization and operationalization in empirical social research. *ZENITH International Journal of Multidisciplinary Research*, *3*(7), 108–114.

Raykov, T., & Marcoulides, G. A. (2008). An Introduction to applied multivariate analysis. In *An Introduction to Applied Multivariate Analysis*. https://doi.org/10.4324/9780203809532

Reiter-Palmon, R., Wigert, B., & de Vreede, T. (2012). Team creativity and innovation: The effect of group composition, social processes, and cognition. In *Handbook of organizational creativity* (pp. 295–326). https://doi.org/10.1016/B978-0-12-374714-3.00013-6

Research Ethics: A Handbook of Principles and Procedures. (2021). University Research Degrees Committee. https://www.glos.ac.uk/information/knowledge-base/research-ethics-a-handbook-of-principles-and-procedures/#ApprovalProcedures

Richardson, H. A., Simmering, M. J., & Sturman, M. C. (2009). A Tale of Three Perspectives. *Organizational Research Methods*, *12*(4), 762–800. https://doi.org/10.1177/1094428109332834

Riedel-Heller, S., & Richter, D. (2021). Psychological consequences of the COVID-19 pandemic in the general public. *Public Health Forum*, *29*(1), 54–56. https://doi.org/10.1515/pubhef-2020-0121

Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role Conflict an Ambiguity in Complex Organisations. *Administrative Science Quarterly*, *15*(2), 150–163.

Roberts, B. W., Kuncel, N. R., Shiner, R., Caspi, A., & Goldberg, L. R. (2007). The power of personality: The comparative validity of personality traits, socioeconomic status, and cognitive ability for predicting important life outcomes. *Perspectives on Psychological Science*, *2*(4), 313–345. https://doi.org/10.1109/sfcs.1985.20

Robinson, C., & Schumacker, R. (2009). Interaction effects: centering, variance inflation factor, and interpretation issues. *Multiple Linear Regression Viewpoints*, *35*(1), 6–11. http://mlrv.ua.edu/2009/vol35_1/robinson_schumacke_rproof.pdf

Rohrer, J. M. (2018). Thinking Clearly About Correlations and Causation: Graphical Causal Models for Observational Data. *Advances in Methods and Practices in Psychological Science*, *1*(1), 27–42. https://doi.org/10.1177/2515245917745629

Roothman, B., Kirsten, D. K., & Wissing, M. P. (2003). Gender differences in aspects of psychological well-being. *South African Journal of Psychology*, *33*(4), 212–218. https://doi.org/10.1177/008124630303300403

Rose, J., & Schelewa-Davies, D. (1997). Staff Stress and Team Climate in Residential Services. *Journal of Learning Disabilities for Nursmg, Health and Social Care*, *1*(1), 19–24.

Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *Leadership Quarterly*, *22*(5), 956–974. https://doi.org/10.1016/j.leaqua.2011.07.014

Rosing, K., Rosenbusch, N., & Frese, M. (2010). Ambidextrous leadership in the innovation process. In *Innovation and International Corporate Growth* (pp. 191–204). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-10823-5_12

Rosing, K., & Zacher, H. (2017). Individual Ambidexterity: The Duality of Exploration and Exploitation and its Relationship with Innovative Performance. *European Journal of Work and Organizational Psychology*, *26*(5), 694–709. https://doi.org/10.1080/1359432X.2016.1238358

Rothmann, S. (2008). Job satisfaction, occupational stress, burnout and work engagement as components of work-related wellbeing. *SA Journal of Industrial Psychology*, *34*(3), 11–16.

Rubin, D. C., & Talarico, J. M. (2009). A comparison of dimensional models of emotion. *Memory*, *17*(8), 802–808. https://doi.org/10.1080/09658210903130764 T4 - Evidence from emotions, prototypical events, autobiographical memories, and words PM - 19691001 M4 - Citavi

Russell, E., & Daniels, K. (2018). Measuring affective well-being at work using short-form scales: Implications for affective structures and participant instructions. *Human Relations*, *71*(11), 1478–1507.

Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, *39*(6), 1161–1178. https://doi.org/10.1037/h0077714

Ryan, A. M., Inceoglu, I., Bartram, D., Golubovich, J., Grand, J., Reeder, M., Derous, E., Nikolaou, I., & Yao, X. (2015). Trends in testing: Highlights of a global survey. In *Employee recruitment, selection, and assessment: Contemporary issues for theory and practice* (pp. 136–153). Psychology Press.

Salgado, J. F. (2017). Personnel Selection. In *Oxford Research Encyclopedia of Psychology*. Oxford University Press. https://doi.org/10.1093/acrefore/9780190236557.013.8

Sarantakos, S. (2012). *Social research*. Macmillan International Higher Education.

Sarros, J. C., Cooper, B. K., & Santora, J. C. (2008). Building a climate for innovation through transformational leadership and organizational culture. *Journal of Leadership and Organizational Studies*, *15*(2), 145–158. https://doi.org/10.1177/1548051808324100

Saunders, M., Lewis, P. L., & Thornhill, A. (2015). *Research Methods for Business Students* (7th ed.). Pearson Education.

Saunders, M., Lewis, P., & Thornhill, A. (2008). *Research methods for business students*. Pearson education. https://doi.org/10.1007/s13398-014-0173-7.2

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students ebook*. Pearson Education, Limited.

Saxena, M., Bagga, T., Gupta, S., & Kaushik, N. (2022). Exploring Common Method Variance in Analytics Research in the Indian Context: A Comparative Study with Known Techniques. *FIIB Business Review*, 1–17. https://doi.org/10.1177/23197145221099098

Schad, J., Lewis, M. W., Raisch, S., & Smith, W. K. (2016). Paradox Research in Management Science: Looking Back to Move Forward. *Academy of Management Annals*, *10*(1), 5–64. https://doi.org/10.1080/19416520.2016.1162422

Schad, J., Lewis, M. W., & Smith, W. K. (2019). Quo vadis, paradox? Centripetal and centrifugal forces in theory development. *Strategic Organization*, *17*(1), 107–119. https://doi.org/10.1177/1476127018786218

Schaufeli, W. B. (2004). The future of occupational health psychology. *Applied Psychology*, *53*(4), 502–517. https://doi.org/10.1136/bmj.1.4646.156

Schmitt, D. P., Allik, J., McCrae, R. R., Benet-Martínez, V., Alcalay, L., Ault, L., Austers, I., Bennett, K. L., Bianchi, G., Boholst, F., Borg Cunen, M. A., Braeckman, J., Brainerd, E. G., Caral, L. G. A., Caron, G., Martina Casullo, M., Cunningham, M., Daibo, I., De Backer, C., … Sharan, M. B. (2007). The geographic distribution of Big Five personality traits: Patterns and profiles of human self-description across 56 nations. *Journal of Cross-Cultural Psychology*, *38*(2), 173–212. https://doi.org/10.1177/0022022106297299

Schmitt, D. P., Long, A. E., McPhearson, A., O'Brien, K., Remmert, B., & Shah, S. H. (2017). Personality and gender differences in global perspective. *International Journal of Psychology*, *52*, 45–56. https://doi.org/10.1002/ijop.12265

Schneider, T. R. T. R., Rench, T. A., Lyons, J. B., & Riffle, R. R. (2012). The Influence of Neuroticism, Extraversion and Openness on Stress Responses. *Stress and Health*, *28*(2), 102–110. https://doi.org/10.1002/smi.1409

Schnellbächer, B., & Heidenreich, S. (2020). The role of individual ambidexterity for organizational performance: examining effects of ambidextrous knowledge seeking and offering. *Journal of Technology Transfer*, *0123456789*. https://doi.org/10.1007/s10961-020-09781-x

Schnellbächer, B., Heidenreich, S., & Wald, A. (2019). Antecedents and effects of individual ambidexterity – A cross-level investigation of exploration and exploitation activities at the employee level. *European Management Journal*, *37*(4), 442–454. https://doi.org/10.1016/j.emj.2019.02.002

Schrauf, R. W., & Navarro, E. (2005). Using Existing Tests and Scales in the Field. *Field Methods*, *17*(4), 373–393. https://doi.org/10.1177/1525822X05279924

Schreiber, J. B., Stage, F. K., King, J., Nora, A., & Barlow, E. A. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *Journal of Educational Research*, *99*(6), 323–338. https://doi.org/10.3200/JOER.99.6.323-338

Schudy, C. A. J. (2010). *Contextual Ambidexterity in Organizations: Antecedents and Performance Consequences*. University of St. Gallen, Graduate School of Business Administration, Economics, Law and Social Sciences (HSG) .

Schultz, D. P., & Schultz, E. S. (2016). *Theories of personality*. Cengage Learning. https://doi.org/10.1093/oxfordjournals.jbchem.a126528

Schumacker, R. E., & Lomax, R. G. (2004). *A Beginner's Guide to Structural Equation Modeling*. Routledge/Taylor & Francis Group. https://doi.org/10.1111/j.1467-985x.2012.01045_12.x

Seibert, S. E., Silver, S. R., & Randolph, W. A. (2004). Taking empowerment to the next level: A multiple-level model of empowerment, performance, and satisfaction. *Academy of Management Journal*, *47*(3), 332–349. https://doi.org/10.2307/20159585

Seo, Y. W., Chae, S. W., & Lee, K. C. (2015). The impact of absorptive capacity, exploration, and exploitation on individual creativity: Moderating effect of subjective well-being. *Computers in Human Behavior*, *42*, 68–82. https://doi.org/10.1016/j.chb.2014.03.031

Shepherd, C., & Challenger, R. (2013). Revisiting paradigm(s) in management research: A rhetorical analysis of the paradigm wars. *International Journal of Management Reviews*, *15*(2), 225–244. https://doi.org/10.1111/ijmr.12004

Shewchuk, R. M., Elliott, T. R., MacNair-Semands, R. R., & Harkins, S. (1999). Trait Influences on Stress Appraisal and Coping: An Evaluation of Alternative Frameworks. *Journal of Applied Social Psychology*, *29*(4), 685–704. https://doi.org/10.1111/j.1559-1816.1999.tb02019.x

Siegall, M. (1995). Stress and organizational role conflict. *Genetic Social and General Psychology Monographs*, *121*(1), 65–95. https://www.researchgate.net/publication/15478243

Simsek, Z. (2009). Organizational ambidexterity: Towards a multilevel understanding. *Journal of Management Studies*, *46*(4), 597–624. https://doi.org/10.1111/j.1467-6486.2009.00828.x

Sireci, S. G. (1998). The construct of content validity. *Social Indicators Research*, *45*(1–3), 83–117. https://doi.org/10.1023/a:1006985528729

Skakon, J., Kristensen, T. S., Christensen, K. B., Lund, T., & Labriola, M. (2011). Do managers experience more stress than employees? Results from the Intervention Project on Absence and Well-being (IPAW) study among Danish managers and their employees. *Work*, *38*(2), 103–109. https://doi.org/10.3233/WOR-2011-1112

Slutsky, J., Chin, B., Raye, J., & Creswell, J. D. (2019). Mindfulness training improves employee well-being: A randomized controlled trial. *Journal of Occupational Health Psychology*, *24*(1), 139–149. https://doi.org/10.1037/ocp0000132

Smith, K. W., & Sasaki, M. S. (1979). Decreasing multicollinearity: A method for models with multiplicative functions. *Sociological Methods & Research*, *8*(1), 35–56. https://doi.org/10.1177/004912417900800102

Smith, M. M., Sherry, S. B., Vidovic, V., Saklofske, D. H., Stoeber, J., & Benoit, A. (2019). Perfectionism and the Five-Factor Model of Personality: A Meta-Analytic Review. *Personality and Social Psychology Review*, *23*(4), 367–390. https://doi.org/10.1177/1088868318814973

Smith, W. K., & Tushman, M. L. (2005). Managing Strategic Contradictions: A Top Management Model for Managing Innovation Streams. *Organization Science*, *16*(5), 522–536. https://doi.org/10.1287/orsc.1050.0134

Smith, W., & Lewis, M. (2011). Toward a theory of paradox: A dynamic equilibrium model of organizing. *Academy of Management Review*, *36*(2), 381–403. https://doi.org/10.5465/amr.2009.0223

Soelton, M., Amaelia, P., & Prasetyo, H. (2020). Dealing with Job Insecurity, Work Stress, and Family Conflict of Employees. *4th International Conference on Management, Economics and Business (ICMEB 2019)*, 167–174. https://doi.org/10.2991/aebmr.k.200205.031

Soh, M., Zarola, A., Palaiou, K., & Furnham, A. (2016). Work-related well-being. *Health Psychology Open*, *3*(1). https://doi.org/10.1177/2055102916628380

Sok, K. M., Sok, P., & De Luca, L. M. (2016). The effect of “can do” and “reason to” motivations on service-sales ambidexterity. *Industrial Marketing Management*, *55*, 144–155. https://doi.org/10.1016/j.indmarman.2015.09.001

Somech, A., & Drach-Zahavy, A. (2013). Translating Team Creativity to Innovation Implementation: The Role of Team Composition and Climate for Innovation. *Journal of Management*, *39*(3), 684–708. https://doi.org/10.1177/0149206310394187

Sønderskov, K. M., Dinesen, P. T., Vistisen, H. T., & Østergaard, S. D. (2021). Variation in psychological well-being and symptoms of anxiety and depression during the COVID-19 Pandemic: Results from a 3-wave panel survey. *Acta Neuropsychiatrica*, *33*(3), 156–159. https://doi.org/10.1017/neu.2020.47

Sonnentag, S., & Frese, M. (2003). Stress in organizations. In *Comprehensive handbook of psychology* (Issue 12, pp. 453–491). https://doi.org/10.1002/0471264385.wei1218

Soto, C. J., & John, O. P. (2017a). The next Big Five Inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *Journal of*

Personality and Social Psychology, *113*(1), 117–143. https://doi.org/10.1037/pspp0000096

Soto, C. J., & John, O. P. (2017b). Short and extra-short forms of the Big Five Inventory–2: The BFI-2-S and BFI-2-XS. *Journal of Research in Personality*, *68*, 69–81. https://doi.org/10.1016/j.jrp.2017.02.004

Sousa, V. D., & Rojjanasrirat, W. (2011). Translation, adaptation and validation of instruments or scales for use in cross-cultural health care research: A clear and user-friendly guideline. *Journal of Evaluation in Clinical Practice*, *17*(2), 268–274. https://doi.org/10.1111/j.1365-2753.2010.01434.x

Souza, A. C. de, Alexandre, N. M. C., & Guirardello, E. de B. (2017). Psychometric properties in instruments evaluation of reliability and validity. *Epidemiologia e Servicos de Saude : Revista Do Sistema Unico de Saude Do Brasil*, *26*(3), 649–659. https://doi.org/10.5123/S1679-49742017000300022

Steel, P., Schmidt, J., & Shultz, J. (2008). Refining the Relationship Between Personality and Subjective Well-Being. *Psychological Bulletin*, *134*(1), 138–161. https://doi.org/10.1037/0033-2909.134.1.138

Steenkamp, J. B. E. M., & Maydeu-Olivares, A. (2022). Unrestricted factor analysis: A powerful alternative to confirmatory factor analysis. *Journal of the Academy of Marketing Science*, *0123456789*. https://doi.org/10.1007/s11747-022-00888-1

Steers, R. M., Mowday, R. T., & Shapiro, D. L. (2004). The Future of Motivation Theory. *Academy of Management Review*, *29*(3), 379–387. https://www.scribd.com/document/28893809/The-Future-of-Motivation-Theory

Strese, S., Keller, M., Flatten, T. C., & Brettel, M. (2018). CEOs' Passion for Inventing and Radical Innovations in SMEs: The Moderating Effect of Shared Vision. *Journal of Small Business Management*, *56*(3), 435–452. https://doi.org/10.1111/jsbm.12264

Strus, W., Cieciuch, J., & Rowiński, T. (2014). The circumplex of personality metatraits: A synthesizing model of personality based on the Big Five. *Review of General Psychology*, *18*(4), 273–286. https://doi.org/10.1037/gpr0000017

Su, C. T., & Parham, L. D. (2002). Generating a valid questionnaire translation for cross-cultural use. *American Journal of Occupational Therapy*, *56*(5), 581–585. https://doi.org/10.5014/ajot.56.5.581

Tabachnick, Barbara G. Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson Education UK.

Tabachnick, B. G., & Fidell, L. S. (2019). Using Multivariate Statistics. In *Pearson* (SEVENTH ED). https://doi.org/10.1007/978-1-4757-2514-8_3

Taber, K. S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, *48*(6), 1273–1296. https://doi.org/10.1007/s11165-016-9602-2

Tadić, M., Bakker, A. B., & Oerlemans, W. G. M. (2015). Challenge versus hindrance job demands and well-being: A diary study on the moderating role of job resources. *Journal of Occupational and Organizational Psychology*, *88*(4), 702–725. https://doi.org/10.1111/joop.12094

Tangirala, S., Kamdar, D., Venkataramani, V., & Parke, M. R. (2013). Doing right versus getting ahead: The effects of duty and achievement orientations on employees' voice. *Journal of Applied Psychology*, *98*(6), 1040–1050. https://doi.org/10.1037/a0033855

Taylor, S. G., & Kluemper, D. H. (2012). Linking perceptions of role stress and incivility to workplace aggression: The moderating role of personality. *Journal of Occupational Health Psychology*, *17*(3), 316–329. https://doi.org/10.1037/a0028211

Tehseen, S., Ramayah, T., & Sajilan, S. (2017). Testing and Controlling for Common Method Variance: A Review of Available Methods. *Journal of Management Sciences*, *4*(2), 142–168. https://doi.org/10.20547/jms.2014.1704202

Tellegen, A., & Waller, N. G. (2008). Exploring personality through test construction: Development of the Multidimensional Personality Questionnaire. In *The SAGE handbook of personality theory*

and assessment 2 (pp. 261–292).

Tellis, W. (1997). Introduction of Case Study. *The Qualitative Report*, *3*(2).

Tempelaar, M. P., & Rosenkranz, N. A. (2017). Switching Hats: The Effect of Role Transition on Individual Ambidexterity. *Journal of Management*, 1–23. https://doi.org/10.1177/0149206317714312

The Federal Assembly of the Swiss Confederation. (2004). *Federal Act on the National Languages and Understanding between the Linguistic Communities*.

Trimi, S., & Berbegal-Mirabent, J. (2012). Business model innovation in entrepreneurship. *International Entrepreneurship and Management Journal*, *8*(4), 449–465. https://doi.org/10.1007/s11365-012-0234-3

Turner, N., Swart, J., & Maylor, H. (2013). Mechanisms for managing ambidexterity: A review and research agenda. *International Journal of Management Reviews*, *15*(3), 317–332. https://doi.org/10.1111/j.1468-2370.2012.00343.x

Tushman, M. L., & O'Reilly, C. A. (1996). Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change. *California Management Review*, *38*(4), 8–29. https://doi.org/10.2307/41165852

Tushman, M. L., & Romanelli, E. (1985). Organizational evolution: A metamorphosis model of convergence and reorientation. *Research in Organizational Behavior*, *7*, 171–222.

Uncu, Y., Bayram, N., & Bilgel, N. (2007). Job related affective well-being among primary health care physicians. *European Journal of Public Health*. https://doi.org/10.1093/eurpub/ckl264

Van Den Broeck, J., Cunningham, S. A., Eeckels, R., & Herbst, K. (2005). Data cleaning: Detecting, diagnosing, and editing data abnormalities. *PLoS Medicine*, *2*(10), 0966–0970. https://doi.org/10.1371/journal.pmed.0020267

Van Dick, R., Wagner, U., Stellmacher, J., & Christ, O. (2004). *The utility of a broader conceptualization of organizational identification: Which aspects really matter?* www.bps.org.uk

Van Horn, J. E., Taris, T. W., Schaufeli, W. B., & Schreurs, P. J. G. (2004). The structure of occupational well-being: A study among Dutch teachers. In *Journal of Occupational and Organizational Psychology* (Vol. 77). www.bps.org.uk365

Van Iddekinge, C. H., Putka, D. J., & Campbell, J. P. (2011). Reconsidering Vocational Interests for Personnel Selection: The Validity of an Interest-Based Selection Test in Relation to Job Knowledge, Job Performance, and Continuance Intentions. *Journal of Applied Psychology*, *96*(1), 13–33. https://doi.org/10.1037/a0021193

van Teijlingen, Edwin R. Hundley, V. (2001). The importance of pilot studies. *Social Research UPDATE*, *35*.

Vassend, O., & Skrondal, A. (1997). Validation of the NEO personality inventory and the five-factor model. Can findings from exploratory and confirmatory factor analysis be reconciled? *European Journal of Personality*, *11*(2), 147–166. https://doi.org/10.1002/(SICI)1099-0984(199706)11:2<147::AID-PER278>3.0.CO;2-E

Vicentini, F., Peruffo, E., Meissner, D., & Mueller, J. (2019). Unpacking Entrepreneurial Intensity and Individual Ambidexterity in Small Project-Based Enterprises: A New Perspective for the TV Drama Industry. *IEEE Transactions on Engineering Management*, 1–9. https://doi.org/10.1109/TEM.2019.2914662

Vittersø, J., & Nilsen, F. (2002). The conceptual and relational structure of subjective well-being, neuroticism, and extraversion: Once again, neuroticism is the important predictor of happiness. *Social Indicators Research*, *57*(1), 89–118. https://doi.org/10.1023/A:1013831602280

Vlerick, P. (2001). Personality correlates of burnout: a cross-validation study. In J. De Jonge, P. Vlerick, A. Bussing, & W. Schaufeli (Eds.), *Organizational Psychology and Health Care at the Start of a New Millennium* (pp. 139–155). Rainer Hampp Verlag.

Volchok, E. (2020). *Clear-Sighted Statistics : Module 14 : One-Sample Null hypothesis Significance Tests*. City University of New York (CUNY).

Vollrath, M. (2001). Personality and stress. *Scandinavian Journal of Psychology*, *42*(4), 335–347.

Vollrath, M., & Torgersen, S. (2000). Personality types and coping. *Personality and Individual Differences*, *29*(2), 367–378. https://doi.org/10.1016/S0191-8869(99)00199-3

von Wittich, D., & Antonakis, J. (2011). The KAI cognitive style inventory: Was it personality all along? *Personality and Individual Differences*, *50*(7), 1044–1049. https://doi.org/10.1016/j.paid.2011.01.022

Voss, G. B., & Voss, Z. G. (2013). Strategic ambidexterity in small and medium-sized enterprises: Implementing exploration and exploitation in product and market domains. *Organization Science*, *24*(5), 1459–1477. https://doi.org/10.1287/orsc.1120.0790

Waheed, A., Jianhua, Y., & Jon, W. (2017). The Effect of Personality Traits on Sales Performance: An empirical Investigation to test the Five-Factor Model (FFM) in Pakistan. *Interdisciplinary Journal of Information Knowledge and Management*, *12*, 139–157.

Walfish, S. (2006). A review of statistical outlier methods. *Pharmaceutical Technology*, *30*(11), 82–86.

Wang, C. L., & Rafiq, M. (2014). Ambidextrous organizational culture, contextual ambidexterity and new product innovation: A comparative study of UK and Chinese high-tech firms. *British Journal of Management*, *25*(1), 58–76. https://doi.org/10.1111/j.1467-8551.2012.00832.x

Wang, H., & Li, J. (2008). Untangling the effects of overexploration and overexploitation on organizational performance: The moderating role of environmental dynamism. *Journal of Management*, *34*(5), 925–951. https://doi.org/10.1177/0149206308321547

Warr, P. (1990). The measurement of well-being and other aspects of mental health. *Journal of Occupational Psychology*, *63*(3), 193–210.

Warr, P. (1994). A conceptual framework for the study of work and mental health. *Work and Stress*, *8*(2), 84–97. https://doi.org/10.1080/02678379408259982

Warr, P. (2012). How to Think About and Measure Psychological Well-being. In *Research methods in occupational health psychology* (Issue October, pp. 110–114). Routledge. https://www.researchgate.net/publication/267427887_How_to_Think_About_and_Measure_Psychological_Well-being

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales. In *Journal of Personality and Social Psychology* (Vol. 54, Issue 6).

Weibler, J., & Keller, T. (2011). Ambidextrie in Abhängigkeit von Führungsverantwortung und Marktwahrnehmung: Eine empirische Analyse des individuellen Arbeitsverhaltens in Unternehmen. *Schmalenbachs Zeitschrift Für Betriebswirtschaftliche Forschung*, *63*(2), 155–188.

Weijters, B., Baumgartner, H., & Schillewaert, N. (2013). Reversed item bias: An integrative model. *Psychological Methods*, *18*(3), 320–334. https://doi.org/10.1037/a0032121

West, M. A. (1990). The social psychology of innovation in groups. In M. A. West & J. L. Farr (Eds.), *Innovation and creativity at work: Psychological and organizational strategies*. John Wiley & Sons.

West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 56–75). Sage Publications.

Westfall, J., & Yarkoni, T. (2016). Statistically controlling for confounding constructs is harder than you think. *PLoS ONE*, *11*(3), 1–22. https://doi.org/10.1371/journal.pone.0152719

Weston, R., & Gore, P. A. (2006). A Brief Guide to Structural Equation Modeling. *The Counseling Psychologist*, *34*(5), 719–751. https://doi.org/10.1177/0011000006286345

Whillans, A., Perlow, L., & Turek, A. (2021). Experimenting during the shift to virtual team work: Learnings from how teams adapted their activities during the COVID-19 pandemic. *Information and Organization*, *31*(1), 100343. https://doi.org/10.1016/j.infoandorg.2021.100343

Widiger, T. A., & Crego, C. (2019). The Five Factor Model of personality structure: an update. *World Psychiatry*, *18*(3), 271–272. https://doi.org/10.1002/wps.20658

Williams, P. G., Rau, H. K., Cribbet, M. R., & Gunn, H. E. (2009). Openness to Experience and stress regulation. *Journal of Research in Personality*, *43*(5), 777–784. https://doi.org/10.1016/j.jrp.2009.06.003

Willis, G. (2014). Pretesting of Health Survey Questionnaires: Cognitive Interviewing, Usability Testing, and Behavior Coding. *Handbook of Health Survey Methods*, *January 2015*, 217–242. https://doi.org/10.1002/9781118594629.ch9

Wilmot, M. P., & Ones, D. S. (2019). A century of research on conscientiousness at work. *Proceedings of the National Academy of Sciences of the United States of America*, *116*(46), 23004–23010. https://doi.org/10.1073/pnas.1908430116

Wilmot, M. P., Wanberg, C. R., Kammeyer-Mueller, J. D., & Ones, D. S. (2019). Extraversion advantages at work: A quantitative review and synthesis of the meta-analytic evidence. *Journal of Applied Psychology*, *104*(12), 1447–1470. https://doi.org/10.1037/apl0000415

Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample Size Requirements for Structural Equation Models: An Evaluation of Power, Bias, and Solution Propriety. *Educational and Psychological Measurement*, *73*(6), 913–934. https://doi.org/10.1177/0013164413495237

Wright, T. A., Cropanzano, R., & Bonett, D. G. (2007). The moderating role of employee positive well being on the relation between job satisfaction and job performance. *Journal of Occupational Health Psychology*, *12*(2), 93–104. https://doi.org/10.1037/1076-8998.12.2.93

Wright, T. A., & Walton, A. P. (2003). Affect, psychological well-being and creativity: Results of a field study. *Journal of Business & Management*, *9*(1).

Xin, Y., Wu, J., Yao, Z., Guan, Q., Aleman, A., & Luo, Y. (2017). The relationship between personality and the response to acute psychological stress. *Scientific Reports*, *7*(1), 1–8. https://doi.org/10.1038/s41598-017-17053-2

Yu, T., & Gudergan, Siegfried Chen, C.-F. (2018). Achieving employee efficiency–flexibility ambidexterity. *The International Journal of Human Resource Management*, 1–36.

Yu, T., Patterson, P. G., & de Ruyter, K. (2013). Achieving Service-Sales Ambidexterity. *Journal of Service Research*, *16*(1), 52–66. https://doi.org/10.1177/1094670512453878

Zacher, H., Robinson, A. J., & Rosing, K. (2016). Ambidextrous leadership and employees' self-reported innovative performance: The role of exploration and exploitation behaviors. *The Journal of Creative Behavior*, *50*(1), 24–46. https://doi.org/10.1002/jocb.66

Zacher, H., & Schmitt, A. (2016). Work characteristics and occupational well-being: The role of age. *Frontiers in Psychology*, *7*(1411). https://doi.org/10.3389/fpsyg.2016.01411

Zaniboni, S., Truxillo, D. M., & Fraccaroli, F. (2013). Differential effects of task variety and skill variety on burnout and turnover intentions for older and younger workers. *European Journal of Work and Organizational Psychology*, *22*(3), 306–317. https://doi.org/10.1080/1359432X.2013.782288

Zellars, K. L., Perrewe, P. L., & Hochwarter, W. A. (2000). Burnout in health care: The role of the five factors of personality. *Journal of Applied Social Psychology*, *30*(8), 1570–1598.

Zhang, Y. I. Y., Wei, F. W., & Van Horne, C. (2019). Individual Ambidexterity and Antecedents in a Changing Context. *International Journal of Innovation Management*, *23*(3). https://doi.org/10.1142/S136391961950021X

Zun, A. B., Ibrahim, M. I., Mokhtar, A. M., Halim, A. S., & Wan Mansor, W. N. A. (2019). Translation, cross-cultural adaptation, and validation of the hospital consumer assessment of healthcare providers and systems (HCAHPS) into the Malay language. *International Journal of Environmental Research and Public Health*, *16*(11). https://doi.org/10.3390/ijerph16112054

Appendices

Appendix A – Research Instrument in English

Introduction

Dear work colleagues

As part of a study for my PhD, I am investigating the link between the tasks we perform within our job function and our well-being. By participating in this survey, you will help to gain insight into the conditions that promote the long-term well-being of employees.

Answering all the questions should not take more than 10 minutes. Information about you, your work and your working environment will be collected. The survey is completely anonymous. The information will be used exclusively for the purpose of my PhD studies and will not be made available to any other parties.

Please answer all points, even if you feel that the question is not relevant for you. Only fully completed questionnaires can be evaluated.

If you have any questions regarding this survey or the study, please do not hesitate to contact me. If you have any questions about the survey tool, please contact your divisional manager according to the overview at http://pww.post.ch/usp.

Thank you very much for your time and for supporting my PhD dissertation.

Best regards,

Andrea Moccia
Innovation Manager
PhD Student at University of Gloucestershire
Post CH AG
PostMail
Wankdorfalle 4
CH-3030 Bern
Telefon: +41 58 341 13 42
E-Mail: andrea.moccia@post.ch

About your job

In the following we would like to learn more about your work activities. Please refer to activities that you are involved with within your current position. Tasks which were performed more than 12 months ago or which you have dealt with in your previous positions are not relevant.

To what extent did you, last year, engage in work related activities that can be characterized as follows: q2

	1 to a very small extent or not at all	2 to a small extent	3 to a fairly small extent	4 to a moderate extent	5 to a fairly large extent	6 to a large extent	7 to a very large extent
1. frequently recurring activities	○	○	○	○	○	○	○
2. easily plannable activities	○	○	○	○	○	○	○
3. activities whose execution is completely clear	○	○	○	○	○	○	○
4. activities that require a completely different strategy	○	○	○	○	○	○	○
5. activities that refer to a clearly defined problem area	○	○	○	○	○	○	○
6. activities that are so complex that they are difficult to survey at the start	○	○	○	○	○	○	○
7. activities that can be carried out within a previously defined period	○	○	○	○	○	○	○
8. activities in which you do not acquire the competences required for carrying them out until you actually carry them out	○	○	○	○	○	○	○
9. activities that you carry out very routinely	○	○	○	○	○	○	○
10. activities that are so complex that they are difficult to survey at the start	○	○	○	○	○	○	○
11. activities in which you have to deal with previously unknown situations	○	○	○	○	○	○	○
12. activities that require a good deal of adaptability on your part	○	○	○	○	○	○	○
13. activities you carry out in accordance with a familiar pattern	○	○	○	○	○	○	○
14. activities in which you enter previously unknown territory	○	○	○	○	○	○	○
15. activities for which you are well prepared	○	○	○	○	○	○	○
16. activities in which you reach the limits of your knowledge	○	○	○	○	○	○	○

About your personality

Below you will find a number of characteristics that may apply to you. For each of the following statements, please indicate to what extent you agree.

I am someone who... q3

	1 disagree strongly	2 disagree a little	3 neither agree nor disagree	4 agree a little	5 agree strongly
1. Tends to be quiet.	○	○	○	○	○
2. Is compassionate, has a soft heart.	○	○	○	○	○
3. Tends to be disorganized.	○	○	○	○	○
4. Worries a lot.	○	○	○	○	○
5. Is fascinated by art, music, or literature.	○	○	○	○	○
6. Is dominant, acts as a leader.	○	○	○	○	○
7. Is sometimes rude to others.	○	○	○	○	○
8. Has difficulty getting started on tasks.	○	○	○	○	○
9. Tends to feel depressed, blue.	○	○	○	○	○
10. Has little interest in abstract ideas.	○	○	○	○	○
11. Is full of energy.	○	○	○	○	○
12. Assumes the best about people.	○	○	○	○	○
13. Is reliable, can always be counted on.	○	○	○	○	○
14. Is emotionally stable, not easily upset.	○	○	○	○	○
15. Is original, comes up with new ideas.	○	○	○	○	○
16. Is outgoing, sociable.	○	○	○	○	○
17. Can be cold and uncaring.	○	○	○	○	○
18. Keeps things neat and tidy.	○	○	○	○	○
19. Is relaxed, handles stress well.	○	○	○	○	○
20. Has few artistic interests.	○	○	○	○	○
21. Prefers to have others take charge.	○	○	○	○	○
22. Is respectful, treats others with respect.	○	○	○	○	○

23. Is persistent, works until the task is finished.	○	○	○	○	○
24. Feels secure, comfortable with self.	○	○	○	○	○
25. Is complex, a deep thinker.	○	○	○	○	○
26. Is less active than other people.	○	○	○	○	○
27. Tends to find fault with others.	○	○	○	○	○
28. Can be somewhat careless.	○	○	○	○	○
29. Is temperamental, gets emotional easily.	○	○	○	○	○
30. Has little creativity.	○	○	○	○	○

About your team

Please answer the following questions about your work group, i.e., the permanent or semi-permanent team to which you are assigned, with whom you identify, and with whom you interact regularly to perform work-related tasks. q4

	1 to a very small extent or not at all	2 to a fairly small extent	3 to a moderate extent	4 to a fairly large extent	5 to a very large extent
1. How far are you in agreement with the objectives of your team?	○	○	○	○	○
2. To what extent do you think your team's objectives are clearly understood by other members of the team?	○	○	○	○	○
3. To what extent do you think your team's objectives can actually be achieved?	○	○	○	○	○
4. How worthwhile do you think these objectives are to the organisation?	○	○	○	○	○
5. Are team members prepared to question the basis of what the team is doing?	○ ○	○ ○	○ ○	○ ○	○ ○
6. Does the team critically appraise potential weaknesses in what it is doing in order to achieve the best possible outcome?	○ ○	○ ○	○ ○	○ ○	○ ○
7. Do members of the team build on each other's ideas in order to achieve the best possible outcome?	○ ○	○ ○	○ ○	○ ○	○ ○

q5

	1 not at all	2 not really	3 undecided	4 somewhat	5 very much
8. We have a 'we are in it together' attitude.	○ ○	○ ○	○ ○	○ ○	○ ○
9. People keep each other informed about work-related issues in the team.	○ ○	○ ○	○ ○	○ ○	○ ○
10. People feel understood and accepted by each other.	○ ○	○ ○	○ ○	○ ○	○ ○
11. There are real attempts to share information throughout the team.	○ ○	○ ○	○ ○	○ ○	○ ○
12. People in this team are always searching for fresh, new ways of looking at problems.	○	○	○	○	○
13. In this team we take the time needed to develop new ideas.	○	○	○	○	○
14. People in the team cooperate in order to help develop and apply new ideas.	○	○	○	○	○

About your personal well-being

Thinking of the past few weeks, how much of the time has your job made you feel each of the following?

q6

	1 never	2 occasionally	3 some of the time	4 much of the time	5 most of the time	6 all of the time
1. tense	○	○	○	○	○	○
2. uneasy	○	○	○	○	○	○
3. worried	○	○	○	○	○	○
4. calm	○	○	○	○	○	○
5. contented	○	○	○	○	○	○
6. relaxed	○	○	○	○	○	○
7. depressed	○	○	○	○	○	○
8. gloomy	○	○	○	○	○	○
9. miserable	○	○	○	○	○	○
10. cheerful	○	○	○	○	○	○
11. enthusiastic	○	○	○	○	○	○

12. optimistic	○	○	○	○	○	○

Statistics

What is your age? q7

_____

What is your gender? q8

- male
- female
- divers
- prefer not to say

What is your highest completed degree of education? Please indicate your highest certificate / qualification? q9

- Compulsory education without completed vocational education and training (VET)
- Exclusively in-house vocational training not recognised by the State Secretariat for Education, Research, and Innovation SERI
- Vocational education and training (VET) which leads to the award of a Federal VET Diploma or a Federal VET certificate, full-time vocational school, secondary specialised school or equivalent
- Baccalaureate, federal vocational baccalaureate, specialised baccalaureate or equivalent
- Teacher's certificate at various levels: Primary teacher training (for teaching at kindergarten, primary school, needlework and handicrafts, cooking) or equivalent
- Federal PET diploma, Advanced federal PET diploma, College of professional education and training degree or equivalent
- University of applied sciences (UAS), University of teacher education (UTE) or equivalent
- University or institute of technology (UIT)

Show element

If What is your highest completed degree of education?
Please indicate... University of applied sciences (UAS), University of teacher education (UTE) or equivalent is selected

or What is your highest completed degree of education?
Please indicate... University or institute of technology (UIT) is selected

Please indicate your academic title q15

- Bachelor
- Master
- Doctorate

In which functional area do you primarily work? q10

- Assistance functions / Administration
- Procurement
- Finance
- Business management / development
- Information technology
- Infrastructure / Security / Real estate
- Logistics / Production
- Marketing / Communication
- Project / Process management
- Human Resources
- Customer advice
- Transport
- Legal / Compliance / Governance
- Sales

For how long have you been working at Swiss Post? q12

- less than 1 year
- 1 to 3 years
- 4 to 9 years
- 10 to 29 years
- 30 years and more

For how long have you been working in your current position? q13

- less than 1 year
- 1 to 3 years
- 4 to 9 years
- 10 to 29 years
- 30 years and more

Are you a line manager? q14

- yes
- no

Debrief

To remain competitive in today's dynamic and complex environment, companies must not only demonstrate efficiency in their existing business, but also continuously seek new opportunities in new markets or industries. This has an impact on job design. For example, employees are increasingly demanded to be both efficient and creative.

The questionnaire you have just completed is part of a study that examines the effects of the demand for ambidextricity on the well-being of employees. Thereby, the influence of the team climate as well as personal factors are taken into account.

If you have any concerns about how the survey has been conducted, please raise them with Dr. David Dawson (Faculty Research Lead) at ddawson@glos.ac.uk.

Appendix B – Research Instrument in German

Liebe Arbeitskollegen

Im Rahmen einer Studie für meine Doktorarbeit untersuche ich den Zusammenhang zwischen den Tätigkeiten, die wir im Rahmen unserer beruflichen Funktion ausüben, und unserem Wohlbefinden. Mit der Teilnahme an dieser Umfrage unterstützten Sie den Erkenntnisgewinn über die dem langfristigen Wohlergehen der Mitarbeitenden förderlichen Rahmenbedingungen.

Die Beantwortung sämtlicher Fragen sollte **nicht mehr als 10 Minuten** in Anspruch nehmen. Es werden Informationen über Sie, Ihre Arbeit und Ihr Arbeitsumfeld erhoben. Die Umfrage erfolgt vollständig anonym. Die Informationen werden ausschliesslich zum Zweck meiner Doktorarbeit verwendet und keinen weiteren Stellen zugänglich gemacht.

Bitte beantworten Sie sämtliche Punkte, auch wenn Sie das Gefühl haben, dass die Fragestellung für Sie nicht relevant ist. Es können nur vollständig ausgefüllte Fragebogen ausgewertet werden.

Sollten Sie Fragen zu dieser Umfrage oder der Studie haben, stehe ich für Auskünfte jederzeit gerne zur Verfügung. Bei Fragen zum Umfragetool Survalyzer wenden Sie sich bitte an Ihren Bereichsverantwortlichen gemäss der Übersicht unter https://postchag.sharepoint.com/sites/survalyzer.

Vielen Dank für Ihre Zeit und die Unterstützung meiner PhD-Dissertation.

Beste Grüsse

Andrea Moccia
Innovation Manager
PhD Student at University of Gloucestershire
Post CH AG
PostMail
Wankdorfalle 4
CH-3030 Bern
Telefon: +41 58 341 13 42
E-Mail: andrea.moccia@post.ch

Über Ihre Arbeit

Im Folgenden möchten wir gerne mehr über die Anforderungen, welche in Ihrer aktuellen Arbeitsstelle an Sie gestellt werden, erfahren.

In welchem Ausmaß werden in Ihrer aktuellen Position folgende Tätigkeiten von Ihnen gefordert: q2

	1 sehr selten oder nie	2 selten	3 eher selten	4 manchmal	5 eher öfter	6 oft	7 sehr oft
1. häufig wiederkehrende Tätigkeiten	○	○	○	○	○	○	○

2. gut planbare Tätigkeiten	○	○	○	○	○	○	○
3. Tätigkeiten, deren Ausführung vollkommen klar ist	○	○	○	○	○	○	○
4. Tätigkeiten, die eine gänzlich neue Herangehensweise erfordern	○	○	○	○	○	○	○
5. Tätigkeiten, die sich auf einen klar eingegrenzten Problembereich beziehen	○	○	○	○	○	○	○
6. Tätigkeiten, deren Folgen zum Ausführungszeitpunkt noch nicht genau absehbar sind	○	○	○	○	○	○	○
7. Tätigkeiten, die innerhalb eines zuvor definierten Zeitraumes ausgeführt werden können	○	○	○	○	○	○	○
8. Tätigkeiten, bei denen Sie die zur Ausführung benötigten Kompetenzen erst unmittelbar in der Ausführung selbst erwerben	○	○	○	○	○	○	○
9. Tätigkeiten, die Sie sehr routiniert ausführen	○	○	○	○	○	○	○
10. Tätigkeiten, die so komplex sind, dass Sie sie zu Beginn nur schwer überschauen	○	○	○	○	○	○	○
11. Tätigkeiten, bei denen Sie sich mit bis dahin unbekannten Sachverhalten auseinandersetzen	○	○	○	○	○	○	○
12. Tätigkeiten, die Ihrerseits viel Anpassungsleistung erfordern	○	○	○	○	○	○	○
13. Tätigkeiten, die Sie nach einem Ihnen bekannten Muster ausführen	○	○	○	○	○	○	○

14. Tätigkeiten, bei denen Sie sich auf bis dahin unbekanntes Terrain begeben	○	○	○	○	○	○	○
15. Tätigkeiten, auf die Sie sehr gut vorbereitet sind	○	○	○	○	○	○	○
16. Tätigkeiten, bei denen Sie an die Grenzen Ihres Wissens gelangen	○	○	○	○	○	○	○

Über Sie persönlich

Nachstehend finden Sie eine Reihe von Eigenschaften, die auf Sie zutreffen könnten. Bitte geben Sie für jede der folgenden Aussagen an, inwieweit Sie zustimmen. q3

	1 stimme überhaupt nicht zu	2 stimme eher nicht zu	3 teils, teils	4 stimme eher zu	5 stimme voll und ganz zu
1. Ich bin eher ruhig	○	○	○	○	○
2. Ich bin einfühlsam, warmherzig	○	○	○	○	○
3. Ich bin eher unordentlich	○	○	○	○	○
4. Ich mache mir oft Sorgen	○	○	○	○	○
5. Ich kann mich für Kunst, Musik und Literatur begeistern	○	○	○	○	○
6. Ich neige dazu, die Führung zu übernehmen	○	○	○	○	○
7. Ich bin manchmal unhöflich und schroff	○	○	○	○	○
8. Ich neige dazu, Aufgaben vor mir herzuschieben	○	○	○	○	○
9. Ich bin oft deprimiert, niedergeschlagen	○	○	○	○	○
10. Mich interessieren abstrakte Überlegungen wenig	○	○	○	○	○
11. Ich bin voller Energie und Tatendrang	○	○	○	○	○
12. Ich schenke anderen leicht Vertrauen, glaube an das Gute im Menschen	○	○	○	○	○
13. Ich bin verlässlich, auf mich kann man zählen	○	○	○	○	○
14. Ich bin ausgeglichen, nicht leicht aus der Ruhe zu bringen	○	○	○	○	○
15. Ich bin originell, entwickle neue Ideen	○	○	○	○	○

16. Ich gehe aus mir heraus, bin gesellig	○	○	○	○	○
17. Andere sind mir eher gleichgültig, egal	○	○	○	○	○
18. Ich mag es sauber und aufgeräumt	○	○	○	○	○
19. Ich bleibe auch in stressigen Situationen gelassen	○	○	○	○	○
20. Ich bin nicht sonderlich kunstinteressiert	○	○	○	○	○
21. In einer Gruppe überlasse ich lieber anderen die Entscheidung	○	○	○	○	○
22. Ich begegne anderen mit Respekt	○	○	○	○	○
23. Ich bleibe an einer Aufgabe dran, bis sie erledigt ist	○	○	○	○	○
24. Ich bin selbstsicher, mit mir zufrieden	○	○	○	○	○
25. Es macht mir Spaß, gründlich über komplexe Dinge nachzudenken und sie zu verstehen	○	○	○	○	○
26. Ich bin weniger aktiv und unternehmungslustig als andere	○	○	○	○	○
27. Ich neige dazu, andere zu kritisieren	○	○	○	○	○
28. Ich bin manchmal ziemlich nachlässig	○	○	○	○	○
29. Ich reagiere schnell gereizt oder genervt	○	○	○	○	○
30. Ich bin nicht besonders einfallsreich	○	○	○	○	○

Über Ihr Team

Die folgenden Fragen beziehen sich auf Ihre Arbeitsgruppe, d.h. das permanente oder semi-permanente Team, dem Sie zugeordnet sind, mit dem Sie sich identifizieren und mit dem Sie regelmäßig interagieren, um arbeitsbezogene Aufgaben zu erfüllen. q4

	1 in sehr geringem Umfang	2 in geringem Umfang	3 in moderatem Umfang	4 in grossem Umfang	5 in sehr grossem Umfang
1 Inwieweit stimmen Ihre Ziele mit denen Ihres Teams überein?	○	○	○	○	○
2 In welchem Ausmass werden die Ziele des Teams von den anderen Teammitgliedern klar verstanden?	○	○	○	○	○

3 Was denken Sie, inwieweit können die Ziele Ihres Teams auch tatsächlich erreicht werden?	○	○	○	○	○
4 Wie wertvoll sind diese Ziele Ihrer Meinung nach für Ihre Organisation?	○	○	○	○	○
5 Inwieweit sind Teammitglieder bereit, die Basis dessen, was das Team tut, zu hinterfragen?	○	○	○	○	○
6 Inweiweit bewertet das Team mögliche Schwächen seiner Vorgehensweise kritisch, um das bestmögliche Resultat zu erzielen?	○	○	○	○	○
7 Inwieweit bauen die Teammitglieder gegenseitig auf Ihren Ideen auf, um das bestmögliche Ergebnis zu erhalten?	○	○	○	○	○

q5

	1 trifft gar nicht zu	2 trifft eher nicht zu	3 teils, teils	4 trifft eher zu	5 trifft völlig zu
8 Wir haben ein "Wir-Gefühl" in unserem Team.	○	○	○	○	○
9 Die Teammitglieder halten sich über arbeitsbezogene Themen auf dem Laufenden.	○	○	○	○	○
10 Die Teammitglieder fühlen sich gegenseitig akzeptiert und verstanden.	○	○	○	○	○
11 Die Leute bemühen sich wirklich, Informationen im Team zu teilen.	○	○	○	○	○
12 Die Leute in diesem Team versuchen die Probleme immer von verschiedenen Seiten zu betrachten.	○	○	○	○	○
13 In unserem Team nehmen wir uns die Zeit, die wir brauchen, um neue Ideen zu entwickeln.	○	○	○	○	○
14 Leute im Team arbeiten zusammen, um neue Ideen zu entwickeln und anzuwenden.	○	○	○	○	○

Über Ihr persönliches Wohlbefinden

Wenn Sie an die letzten Wochen denken, wie oft hat Ihr Job die folgenden Gefühle in Ihnen ausgelöst? q6

	1 nie	2 selten	3 manchmal	4 oft	5 meistens	6 immer
1. angespannt	○	○	○	○	○	○
2. unbehaglich	○	○	○	○	○	○
3. besorgt	○	○	○	○	○	○
4. gelassen	○	○	○	○	○	○
5. wohl	○	○	○	○	○	○
6. entspannt	○	○	○	○	○	○
7. niedergeschlagen	○	○	○	○	○	○
8. depressiv	○	○	○	○	○	○
9. elend	○	○	○	○	○	○
10. fröhlich	○	○	○	○	○	○
11. enthusiastisch	○	○	○	○	○	○
12. optimistisch	○	○	○	○	○	○
13. bedrückt	○	○	○	○	○	○
14. betrübt	○	○	○	○	○	○
15. unglücklich	○	○	○	○	○	○

Statistische Angaben

Alter q7

_____

Geschlecht q8

- ○ männlich
- ○ weiblich
- ○ divers
- ○ keine Angabe

Welches ist Ihre höchste abgeschlossene Ausbildung?
Bitte tragen Sie den höchsten Abschluss ein. q9

- o Obligatorische Schule, ohne abgeschlossene Berufsausbildung
- o Ausschliesslich unternehmensinterne, durch das Staatssekretariat für Bildung, Forschung und Innovation (SBFI) nicht anerkannte Berufsausbildung
- o Abgeschlossene Berufsausbildung, die zum Erwerb eines eidgenössischen Fähigkeits-zeugnisses (EFZ) führt, Vollzeit-Berufsschule, Diplom- oder Fachmittelschule, berufliche Grundbildung (eidgenössisches Berufsattest – EBA) oder gleichwertige Ausbildung
- o Gymnasiale Maturität, Berufsmaturität, Fachmaturität oder gleichwertige Ausbildung
- o Lehrerpatent auf verschiedenen Stufen: Primarlehrerseminar (für den Unterricht auf Stufe Kindergarten, Primarschule, Handarbeit und Werken, Hauswirtschaft) oder gleichwertige Ausbildung
- o Höhere Berufsausbildung mit eidgenössischem Fachausweis, Diplom oder höherer Fachprüfung/Meisterdiplom, Techniker/in TS, Höhere Fachschule, HTL, HWV, HFG, IES oder gleichwertige Ausbildung
- o Fachhochschule (FH), Pädagogische Hochschule (PH) oder gleichwertige Ausbildung
- o Universitäre Hochschule (UNI, ETH)

Dieses Element anzeigen

Wenn Welches ist Ihre höchste abgeschlossene Ausbildung?
Bitte tragen S... Fachhochschule (FH), Pädagogische Hochschule (PH) oder gleichwertige Ausbildung Ausgewählt ist

Oder Welches ist Ihre höchste abgeschlossene Ausbildung?
Bitte tragen S... Universitäre Hochschule (UNI, ETH) Ausgewählt ist

Bitte geben Sie Ihren Hochschultitel an: q15

- o Bachelor
- o Master, Lizenziat, Diplom, Staatsexamen, Nachdiplom
- o Doktorat, Habilitation

In welchem Funktionsbereich sind Sie primär tätig? q10

- o Assistenzfunktionen / Administration
- o Einkauf
- o Finanzen
- o Geschäftsführung / Geschäftsentwicklung
- o Informatik
- o Infrastruktur / Sicherheit / Immobilien
- o Logistik / Produktion
- o Marketing / Kommunikation
- o Projekt- / Prozessmanagement
- o Human Resources
- o Kundenberatung
- o Transport
- o Recht / Compliance / Governance
- o Verkauf

Wie lange arbeiten Sie bereits bei der Post? q12

- weniger als 1 Jahr
- 1 bis 3 Jahre
- 4 bis 9 Jahre
- 10 bis 29 Jahre
- 30 Jahre und mehr

Wie lange arbeiten Sie schon in Ihrer jetzigen Position? q13

- weniger als 1 Jahr
- 1 bis 3 Jahre
- 4 bis 9 Jahre
- 10 bis 29 Jahre
- 30 Jahre und mehr

Sind Sie Vorgesetzte/Vorgesetzter? q14

- ja
- nein

Schlusswort

Um in der heutigen dynamischen und komplexen Welt wettbewerbsfähig zu bleiben, müssen Unternehmen nicht nur Effizienz in ihrem bestehenden Geschäft beweisen, sondern auch ständig nach neuen Möglichkeiten in neuen Märkten oder Branchen suchen. Dies hat nicht zuletzt Auswirkungen auf die Gestaltung von Arbeitsstellen. Beispielsweise wird von den Mitarbeitenden zunehmend verlangt, sowohl effizient als auch kreativ zu sein.

Der Fragebogen, den Sie gerade ausgefüllt haben, ist Teil einer Studie, die die Auswirkungen dieser widersprüchlichen Anforderungen auf das Wohlbefinden der Mitarbeitenden untersucht. Dabei werden sowohl der Einfluss des Teamklimas als auch persönliche Faktoren berücksichtigt.

Wenn Sie Bedenken bezüglich der Durchführung der Umfrage haben, wenden Sie sich bitte an Dr. David Dawson (Forschungsleiter) unter [redacted]

Appendix C – Research Instrument in French

Chers collègues,

Dans le cadre d'une étude pour mon doctorat, j'étudie le lien entre les tâches que nous accomplissons dans le cadre de notre fonction professionnelle et notre bien-être. En participant à cette enquête, vous contribuerez à mieux comprendre les conditions qui favorisent le bien-être à long terme des employés.

Le questionnaire ne devrait pas prendre plus de 10 minutes. Des informations sur vous, votre travail et votre environnement de travail seront recueillies. L'enquête est totalement anonyme. Les informations seront utilisées exclusivement dans le cadre de mes études de doctorat et ne seront pas mises à la disposition d'autres parties.

Veuillez répondre à tous les points, même si vous estimez que la question n'est pas pertinente pour vous. Seuls les questionnaires entièrement remplis peuvent être évalués.

Si vous avez des questions concernant cette enquête ou l'étude, n'hésitez pas à me contacter. Si vous avez des questions concernant l'outil d'enquête Survalyzer, veuillez contacter votre chef de division selon la vue d'ensemble à l'adresse https://postchag.sharepoint.com/sites/survalyzer.

Je vous remercie pour votre temps et votre soutien à ma thèse de doctorat.

Meilleures salutations

Andrea Moccia
Innovation Manager
PhD Student at University of Gloucestershire
Post CH AG
PostMail
Wankdorfalle 4
CH-3030 Bern
Telefon: +41 58 341 13 42
E-Mail: andrea.moccia@post.ch

À propos de votre emploi

Dans ce qui suit, nous aimerions en savoir plus sur les exigences qui vous sont imposées dans votre emploi actuel.

Dans quelle mesure les activités suivantes sont-elles requises de vous dans votre position actuelle : q2

	1 dans une très faible mesure ou pas du tout	2 dans une faible mesure	3 dans une assez faible mesure	4 dans une mesure modérée	5 dans une assez large mesure	6 dans une large mesure	7 dans une très large mesure

1. des activités qui se répètent fréquemment	○	○	○	○	○	○	○
2. des activités facilement planifiables	○	○	○	○	○	○	○
3. des activités dont l'exécution est parfaitement claire	○	○	○	○	○	○	○
4. des activités qui nécessitent une approche complètement nouvelle	○	○	○	○	○	○	○
5. des activités relatives à une problématique clairement définie	○	○	○	○	○	○	○
6. des activités dont les conséquences ne sont pas tout à fait prévisibles au moment de l'exécution	○	○	○	○	○	○	○
7. des activités qui peuvent être réalisées dans une période préalablement définie	○	○	○	○	○	○	○
8. des activités dont vous n’acquérez les compétences requises pour l'exécution que directement pendant l'exécution	○	○	○	○	○	○	○
9. des activités que vous effectuez de manière très routinière	○	○	○	○	○	○	○
10. des activités si complexes qu'il est difficile de les comprendre au début	○	○	○	○	○	○	○
11. des activités pendant lesquelles	○	○	○	○	○	○	○

vous traitez des questions inconnus auparavant							
12. des activités qui demandent beaucoup d'adaptabilité de votre part	○	○	○	○	○	○	○
13. des activités que vous effectuez selon un schéma que vous connaissez	○	○	○	○	○	○	○
14. des activités pendant lesquelles vous explorez des territoires inconnus auparavant	○	○	○	○	○	○	○
15. des activités pour lesquelles vous êtes bien préparé(e)	○	○	○	○	○	○	○
16. des activités qui poussent vos connaissances à la limite	○	○	○	○	○	○	○

À propos de votre personnalité

Vous trouverez ci-dessous un certain nombre de caractéristiques qui peuvent vous concerner. Pour chacune des déclarations suivantes, veuillez indiquer dans quelle mesure vous êtes d'accord. Je suis quelqu'un qui… q3

	1 en total désaccord	2 en léger désaccord	3 ni d'accord, ni en désaccord	4 un peu d'accord	5 totalement d'accord
1. a tendance à être silencieux	○	○	○	○	○
2. est compatissant, a un cœur tendre.	○	○	○	○	○
3. a tendance à être désorganisé.	○	○	○	○	○
4. s'inquiète beaucoup.	○	○	○	○	○
5. est fasciné par l'art, la musique ou la littérature.	○	○	○	○	○
6. est dominant, agit comme un leader.	○	○	○	○	○

7. est parfois impoli envers les autres.	○	○	○	○	○
8. a de la difficulté à débuter une tâche.	○	○	○	○	○
9. a tendance à se sentir déprimé, à avoir le blues.	○	○	○	○	○
10. s'intéresse peu aux idées abstraites.	○	○	○	○	○
11. est plein d'énergie.	○	○	○	○	○
12. suppose le meilleur des gens.	○	○	○	○	○
13. est fiable, sur qui on peut toujours compter	○	○	○	○	○
14. est émotionnellement stable, pas facilement perturbable.	○	○	○	○	○
15. est original(e), a des idées nouvelles.	○	○	○	○	○
16. est extraverti(e), sociable.	○	○	○	○	○
17. peut être froid et indifférent.	○	○	○	○	○
18. garde les choses bien rangées et ordonnées.	○	○	○	○	○
19. est détendu(e), gère bien le stress.	○	○	○	○	○
20. a peu d'intérêts artistiques.	○	○	○	○	○
21. préfère que les autres prennent les choses en main.	○	○	○	○	○
22. est respectueux(se), traite les autres avec respect.	○	○	○	○	○
23. est persévérant(e), travaille jusqu'à ce que la tâche soit terminée.	○	○	○	○	○
24. se sent en sécurité, à l'aise avec soi-même.	○	○	○	○	○
25. est complexe, un penseur profond.	○	○	○	○	○
26. est moins actif(ve) que les autres.	○	○	○	○	○
27. a tendance à trouver des défauts aux autres.	○	○	○	○	○
28. peut être un peu négligent.	○	○	○	○	○
29. est capricieux(se), s'emporte facilement.	○	○	○	○	○
30. est peu créatif(ve).	○	○	○	○	○

À propos de votre équipe

Veuillez répondre aux questions suivantes concernant votre groupe de travail, c'est-à-dire l'équipe permanente ou semi-permanente à laquelle vous êtes affecté, avec laquelle vous vous identifiez et avec laquelle vous interagissez régulièrement pour effectuer des tâches liées au travail.

q4

	1 pas du tout	2 pas vraiment	3 indécis	4 un peu	5 beaucoup
1. Dans quelle mesure êtes-vous en accord avec les objectifs de votre équipe ?	○	○	○	○	○
2. Dans quelle mesure pensez-vous que les objectifs de votre équipe sont clairement compris par les autres membres de l'équipe ?	○	○	○	○	○
3. Dans quelle mesure pensez-vous que les objectifs de votre équipe peuvent réellement être atteints ?	○	○	○	○	○
4. Dans quelle mesure pensez-vous que ces objectifs sont utiles pour l'organisation ?	○	○	○	○	○
5. Les membres de l'équipe sont-ils prêts à remettre en question les fondements de ce que fait l'équipe ?	○	○	○	○	○
6. L'équipe évalue-t-elle de manière critique les faiblesses potentielles de son action afin d'obtenir le meilleur résultat possible ?	○	○	○	○	○
7. Les membres de l'équipe sont-ils capables de co-créer à partir d’idées d’autres membres, afin d’en tirer le meilleur parti ?	○	○	○	○	○

q5

	1 pas du tout	2 pas vraiment	3 indécis	4 un peu	5 beaucoup
8. Nous avons une attitude de "nous sommes tous dans le même bateau".	○	○	○	○	○
9. Dans l'équipe, les gens se tiennent mutuellement informés des questions liées au travail.	○	○	○	○	○
10. Les gens se sentent compris et acceptés par les autres.	○	○	○	○	○

11. Il existe de réelles tentatives de partage de l'information au sein de l'équipe.	○	○	○	○	○
12. Les membres de cette équipe sont toujours à la recherche de nouvelles façons d'aborder les problèmes.	○	○	○	○	○
13. Dans cette équipe, nous prenons le temps nécessaire pour développer de nouvelles idées.	○	○	○	○	○
14. Les membres de l'équipe coopèrent afin de développer et d'appliquer de nouvelles idées.	○	○	○	○	○

À propos de votre bien-être personnel

Au travail, en pensant aux dernières semaines, à quelle fréquence vous êtes-vous senti(e) :

q6

	1 jamais	2 occasionnellement	3 parfois	4 dans la plupart des cas	5 la plupart du temps	6 tout le temps
1. tendu(e)	○	○	○	○	○	○
2. mal à l'aise	○	○	○	○	○	○
3. inquiet(e)	○	○	○	○	○	○
4. calme	○	○	○	○	○	○
5. satisfait(e)	○	○	○	○	○	○
6. détendu(e)	○	○	○	○	○	○
7. déprimé(e)	○	○	○	○	○	○
8. morose	○	○	○	○	○	○
9. malheureux(se)	○	○	○	○	○	○
10. joyeux(se)	○	○	○	○	○	○
11. enthousiaste	○	○	○	○	○	○
12. optimiste	○	○	○	○	○	○
13. démoralisé(e)	○	○	○	○	○	○
14. sombre	○	○	○	○	○	○
15. misérable	○	○	○	○	○	○

Statistiques

Quel âge avez-vous ? q7

_____

Quel est votre sexe ? q8

- masculin
- féminin
- divers
- préfère ne pas se prononcer

Quel est votre niveau d'études le plus élevé ?
Veuillez indiquer le diplôme le plus élevé. q9

- Scolarité obligatoire, sans formation professionnelle complétée
- Formation professionnelle acquise exclusivement en entreprise non attestée par un certificat reconnu par l'Office fédéral de la formation professionnelle et de la technologie (OFFT)
- Apprentissage complété et attesté par un certificat fédéral de capacité (CFC), école professionnelle à plein temps, école de degré diplôme ou de culture générale, formation professionnelle initiale (attestation fédérale de formation professionnelle – AFP) ou formation équivalente
- Maturité gymnasiale, professionnelle ou spécialisée ou formation équivalente
- Brevet d'enseignement à divers degrés: école normale (préparant à l'enseignement aux niveaux jardin d'enfants, école primaire, travaux manuels, économie ménagère) ou formation équivalente
- Formation professionnelle supérieure avec brevet ou diplôme fédéral ou maîtrise, école technique, école supérieure, ETS, ESCEA, ESAA, IES ou formation équivalente
- Haute école spécialisée (HES), haute école pédagogique (HEP) ou équivalent
- Haute école universitaire (UNI, EPF)

Dieses Element anzeigen

Wenn Quel est votre niveau d'études le plus élevé ?
Veuillez indiquer l... Haute école spécialisée (HES),
haute école pédagogique (HEP) ou équivalent Ausgewählt ist

Oder Quel est votre niveau d'études le plus élevé ?
Veuillez indiquer l... Haute école universitaire (UNI, EPF)
Ausgewählt ist

Veuillez indiquer votre «Titre de haute école» ci-après: q15

- Bachelor
- Master, licence, diplôme, examen d'État, diplôme postgrade
- Doctorat, habilitation

Dans quel domaine travaillez-vous principalement ? q10

- Fonctions d'assistance / Administration
- Achats
- Finances
- Gestion d'affaires / développement commercial
- Informatique
- Infrastructure / Sécurité / Immobilier
- Logistique / Production
- Marketing / Communication
- Gestion de projets / processus
- Ressources humaines
- Conseil à la clientèle
- Transport
- Droit / Compliance / Gouvernance
- Vente

Depuis combien de temps travaillez-vous à la Poste suisse ? q12

- moins de 1 an
- 1 à 3 ans
- 4 à 9 ans
- 10 à 29 ans
- 30 ans et plus

Depuis combien de temps occupez-vous votre poste actuel ? q13

- moins de 1 an
- 1 à 3 ans
- 4 à 9 ans
- 10 à 29 ans
- 30 ans et plus

Êtes-vous un supérieur hiérarchique ? q14

- oui
- non

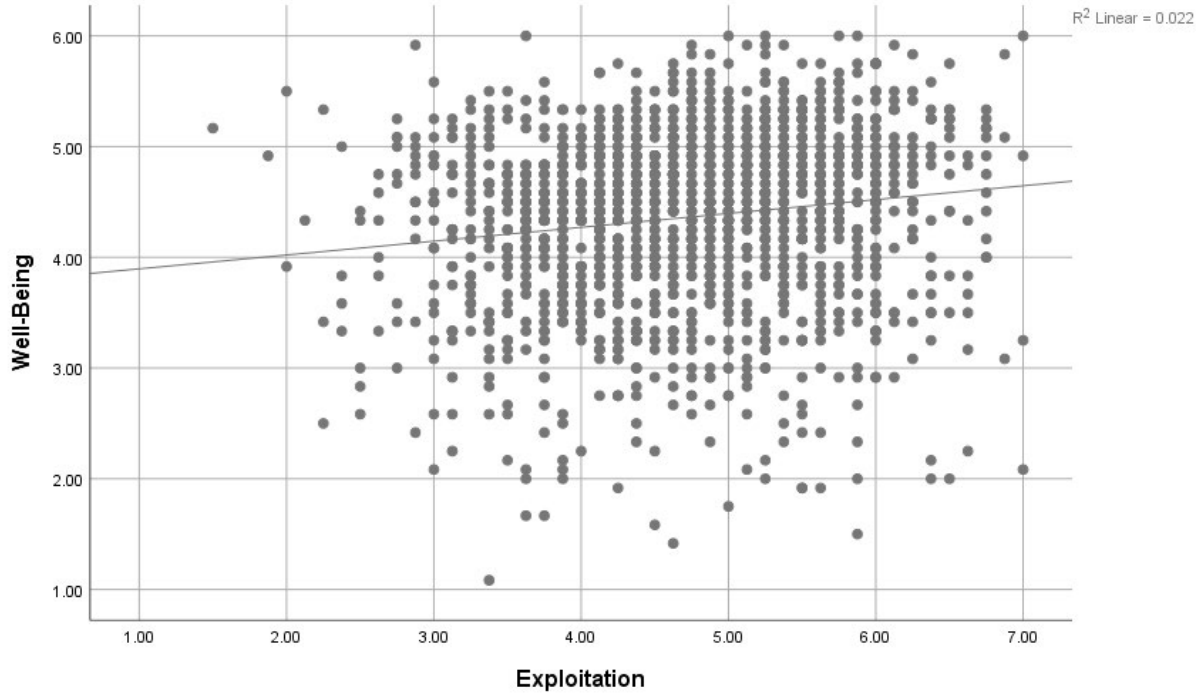
Débriefing

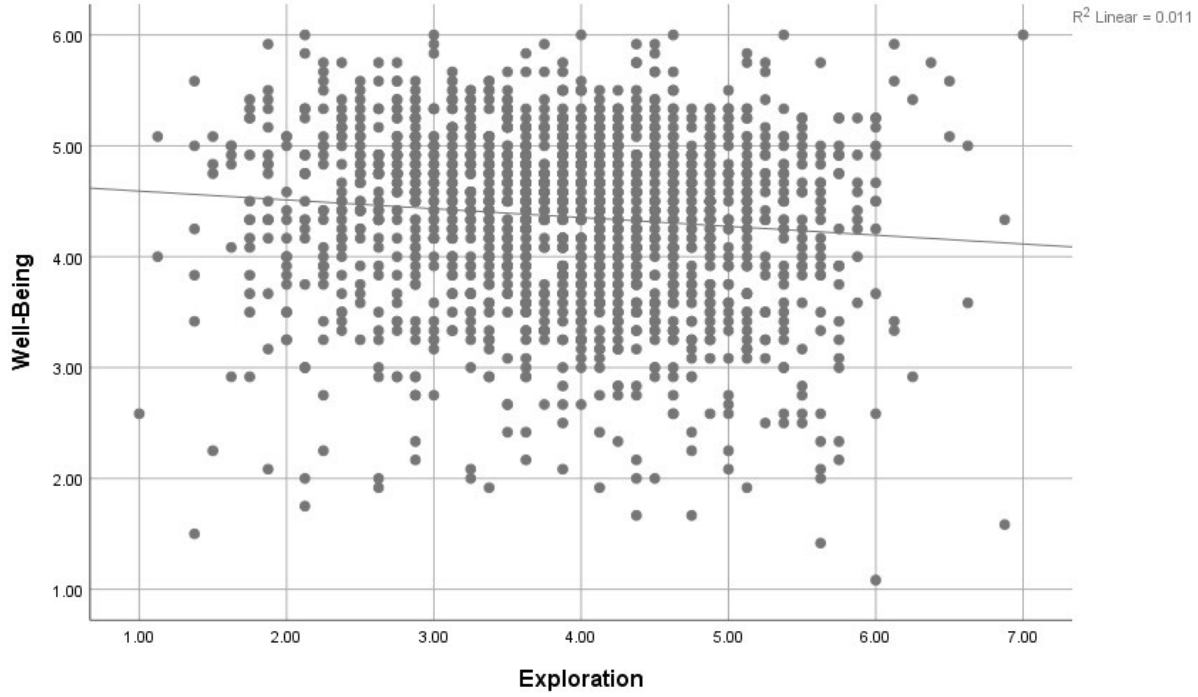
Pour rester compétitives dans l’environnement dynamique et complexe d'aujourd'hui, les entreprises doivent non seulement faire preuve d'efficacité dans leurs activités existantes, mais aussi rechercher en permanence de nouvelles opportunités sur de nouveaux marchés ou dans de nouvelles industries. Ceci a un impact sur les conceptions des postes. Par exemple, on exige de plus en plus des employés qu'ils soient à la fois efficaces et créatifs.

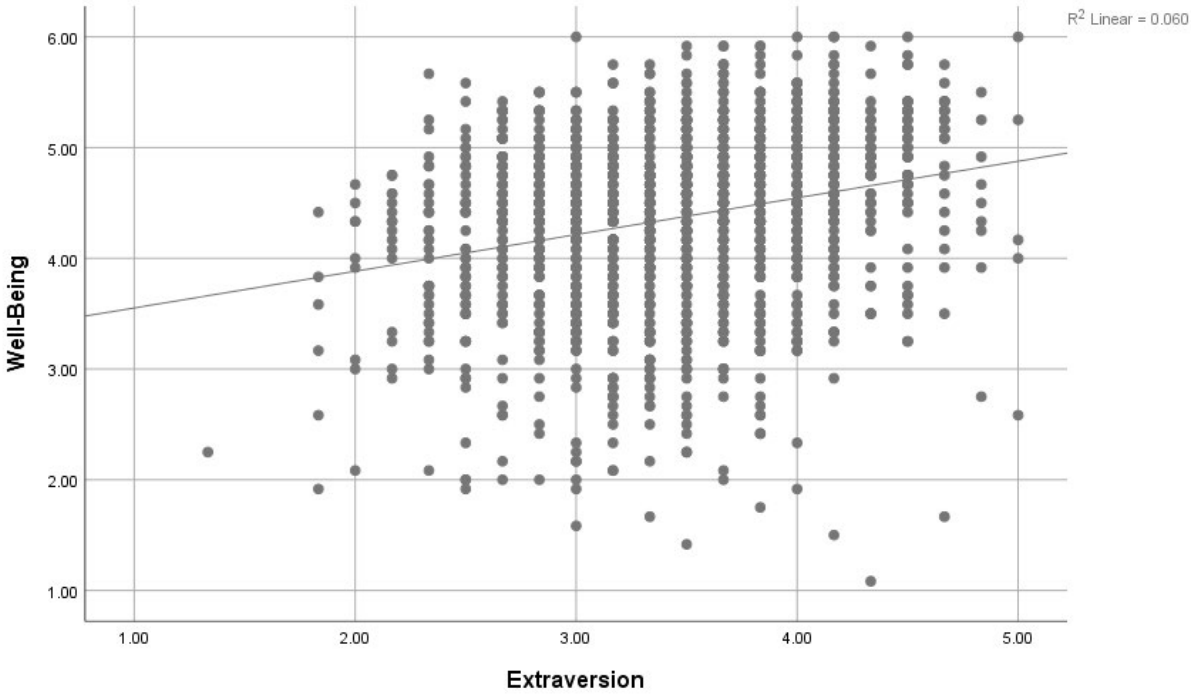
Le questionnaire que vous venez de remplir fait partie d'une étude qui examine les effets de ces exigences contradictoires sur le bien-être des salariés. L'influence du climat de l’équipe et les facteurs personnels sont pris en compte.

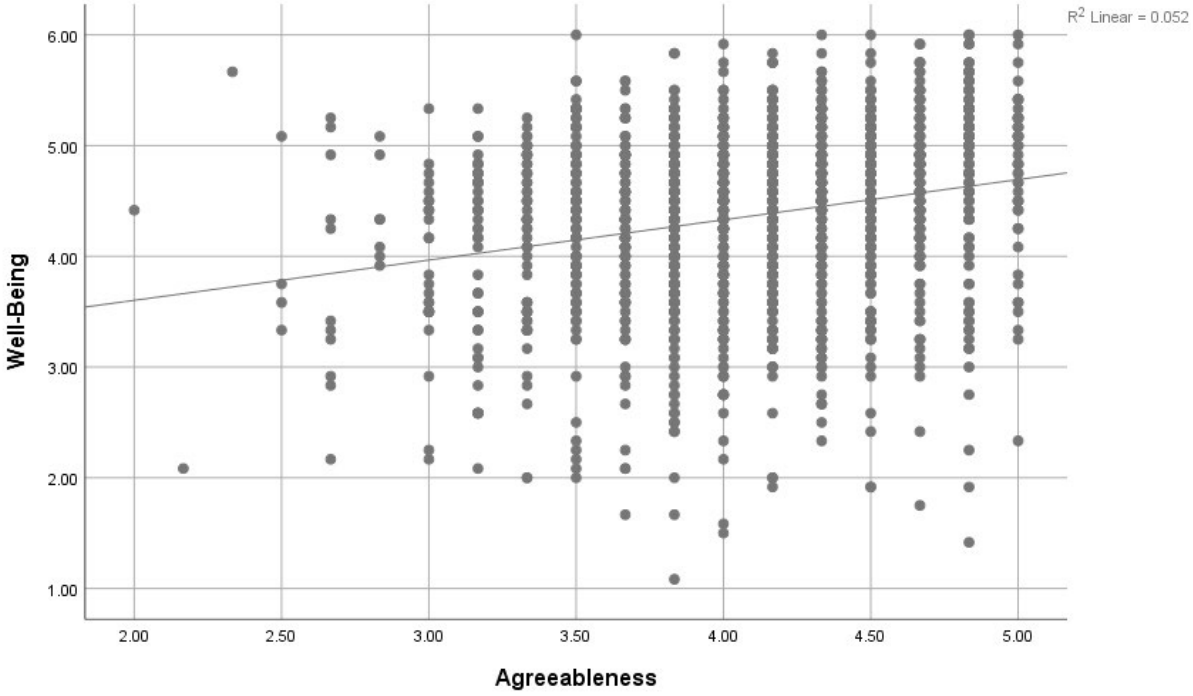
Si vous avez des inquiétudes sur la façon dont l'enquête a été menée, veuillez en faire part au Dr. David Dawson (responsable de la recherche à la faculté) à l'adresse : ddawson@glos.ac.uk.

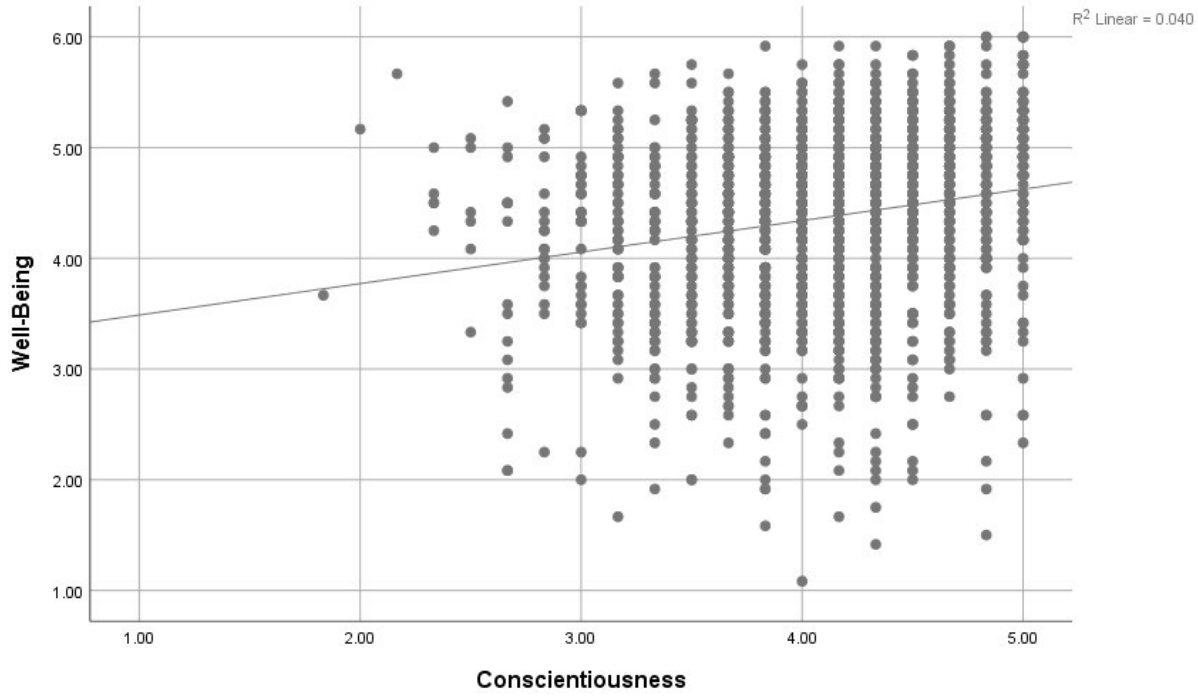
Appendix D – Linearity test

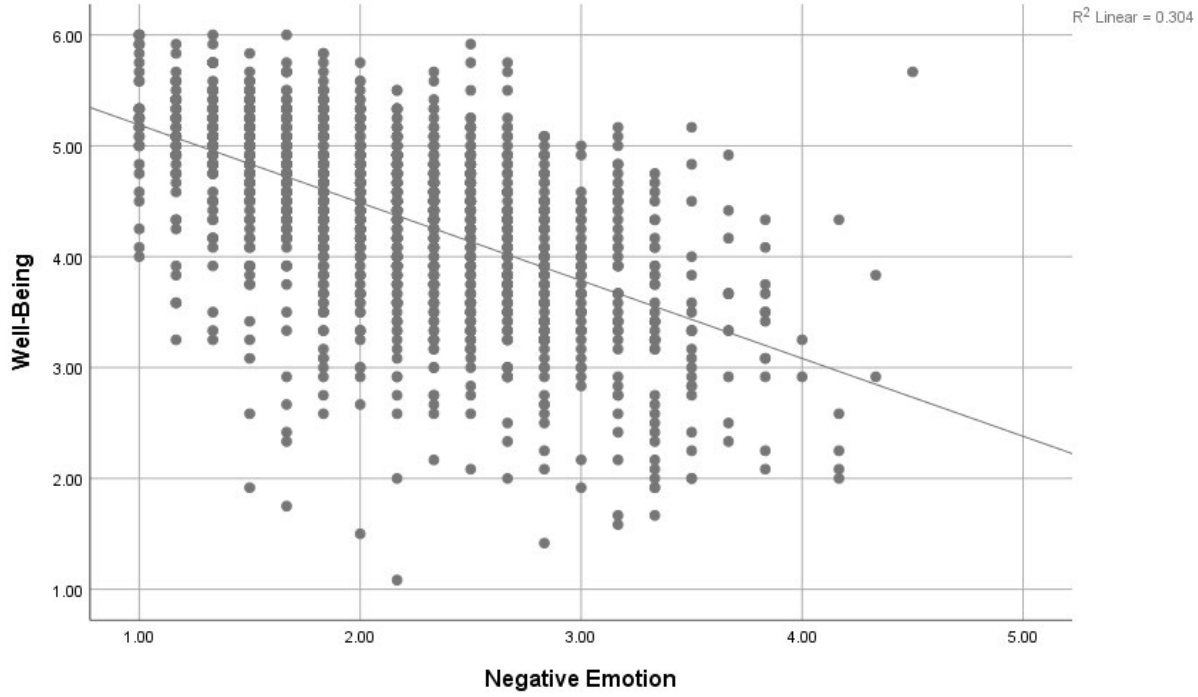


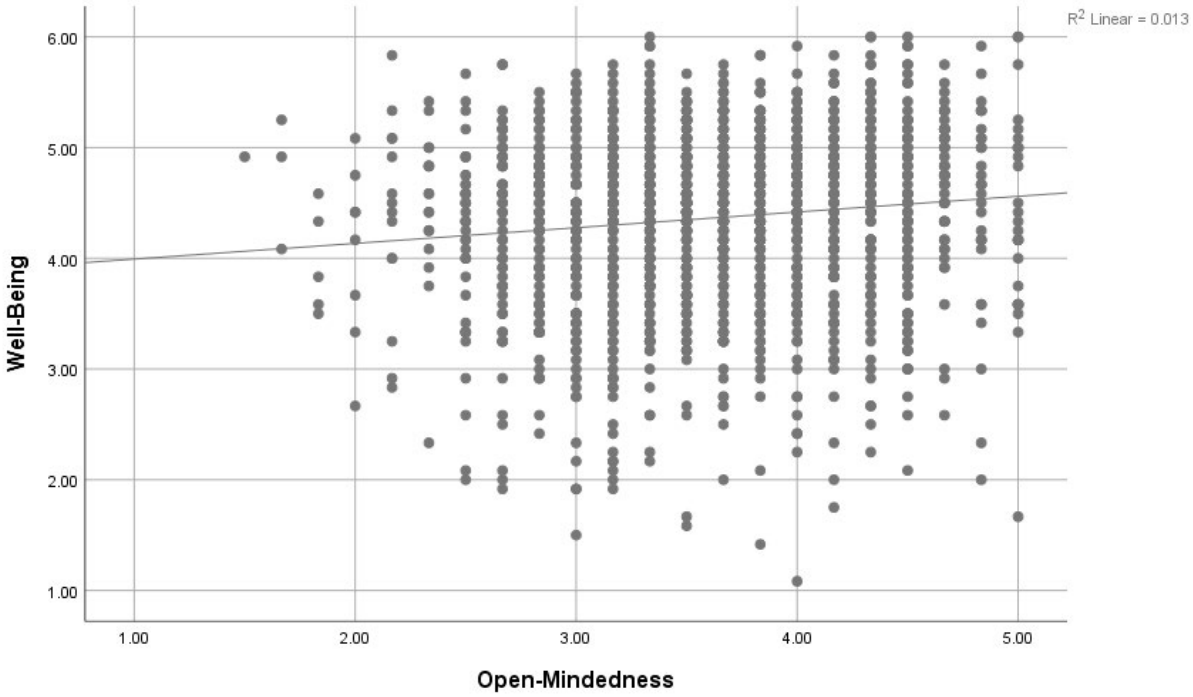


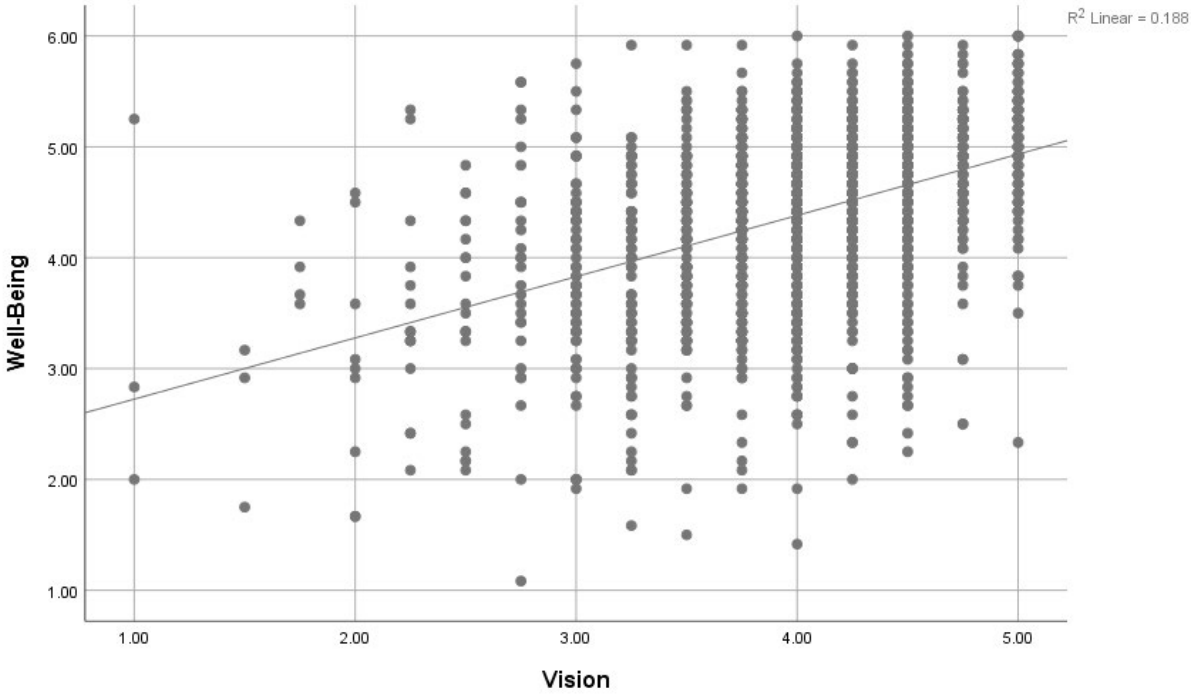

R² Linear = 0.060
Well-Being
6.00
5.00
4.00
3.00
2.00
1.00
1.00
2.00
3.00
4.00
5.00
Extraversion

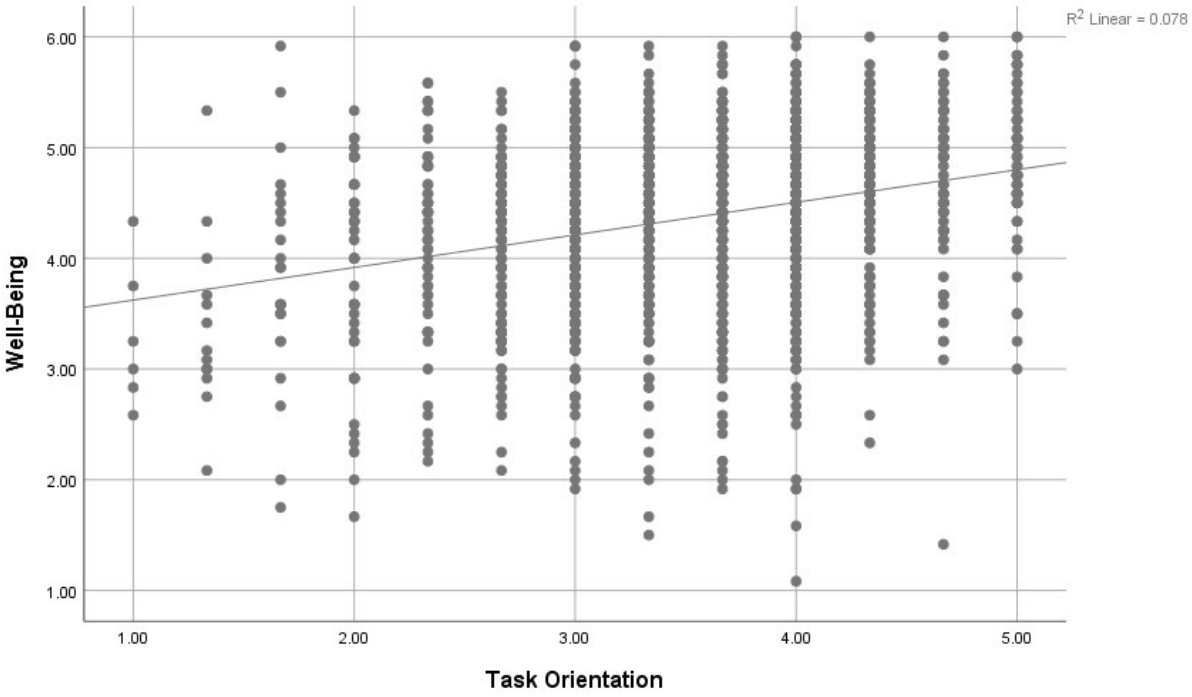

R² Linear = 0.052
Well-Being
6.00
5.00
4.00
3.00
2.00
1.00
2.00
2.50
3.00
3.50
4.00
4.50
5.00
Agreeableness

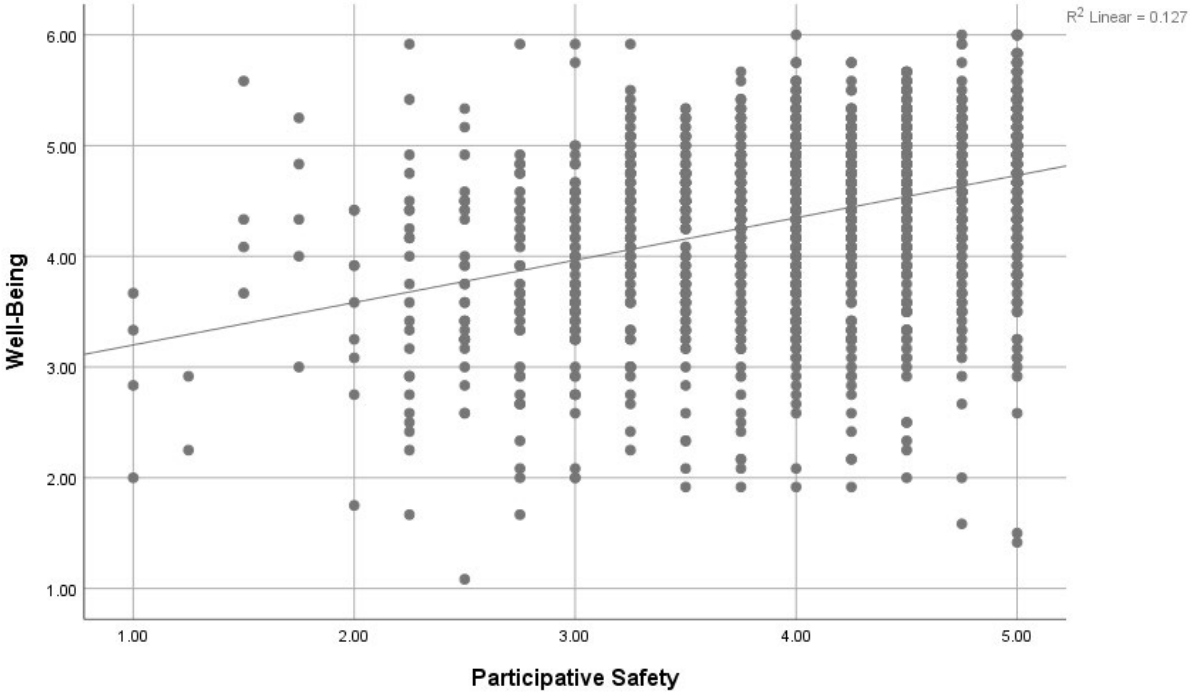

R² Linear = 0.040
Well-Being
6.00
5.00
4.00
3.00
2.00
1.00
1.00
2.00
3.00
4.00
5.00
Conscientiousness

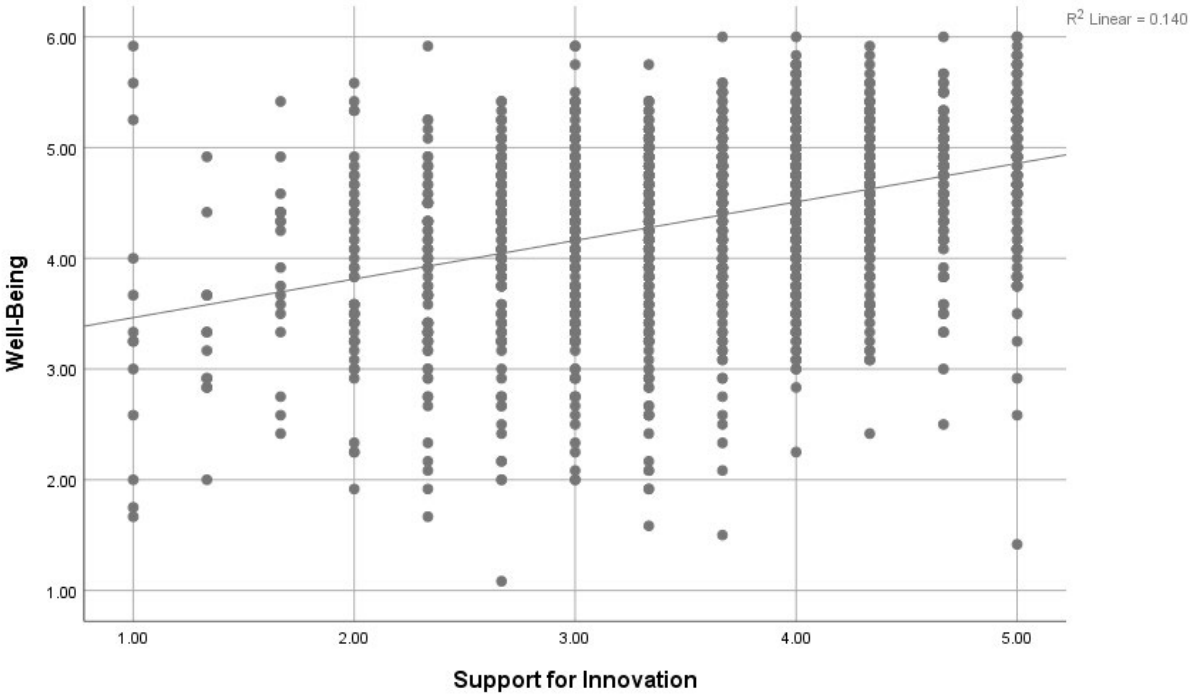

R² Linear = 0.304
Well-Being
6.00
5.00
4.00
3.00
2.00
1.00
1.00
2.00
3.00
4.00
5.00
Negative Emotion


R² Linear = 0.013
Well-Being
6.00
5.00
4.00
3.00
2.00
1.00
1.00
2.00
3.00
4.00
5.00
Open-Mindedness


R² Linear = 0.188
Well-Being
6.00
5.00
4.00
3.00
2.00
1.00
1.00
2.00
3.00
4.00
5.00
Vision


R² Linear = 0.078
Well-Being
6.00
5.00
4.00
3.00
2.00
1.00
1.00
2.00
3.00
4.00
5.00
Task Orientation


R² Linear = 0.127
Well-Being
6.00
5.00
4.00
3.00
2.00
1.00
1.00
2.00
3.00
4.00
5.00
Participative Safety


R² Linear = 0.140
Well-Being
6.00
5.00
4.00
3.00
2.00
1.00
1.00
2.00
3.00
4.00
5.00
Support for Innovation

Appendix E – Homoscedasticity test

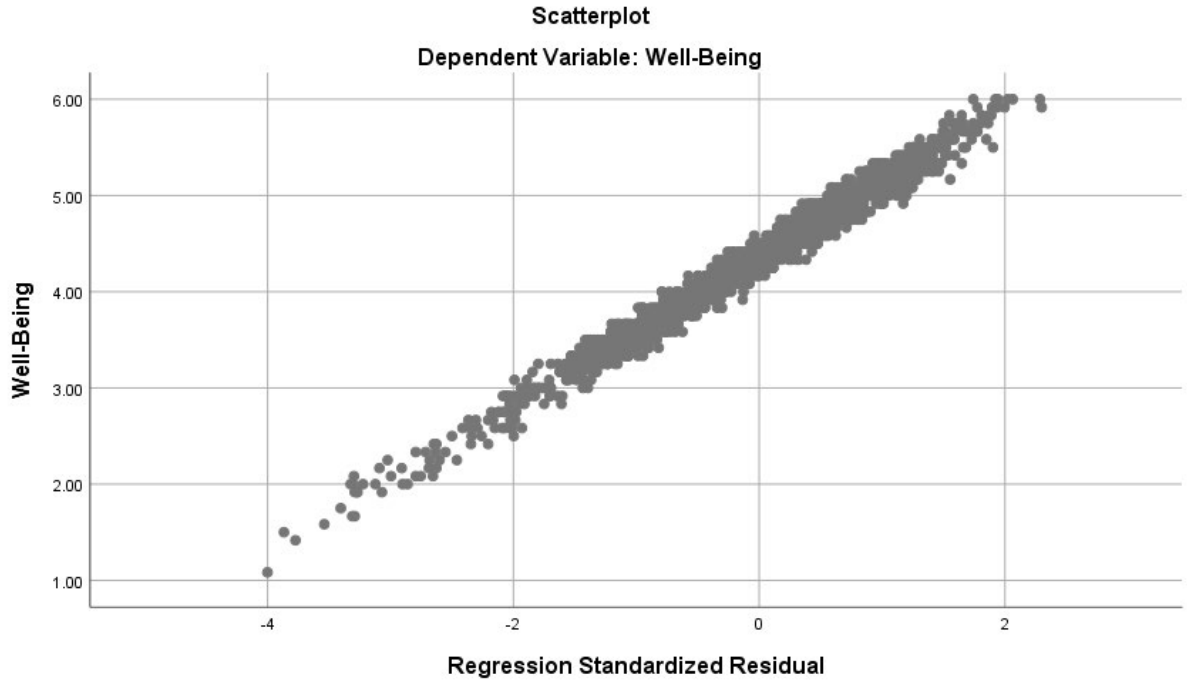


Figure 34: Well-being predicted by exploitation

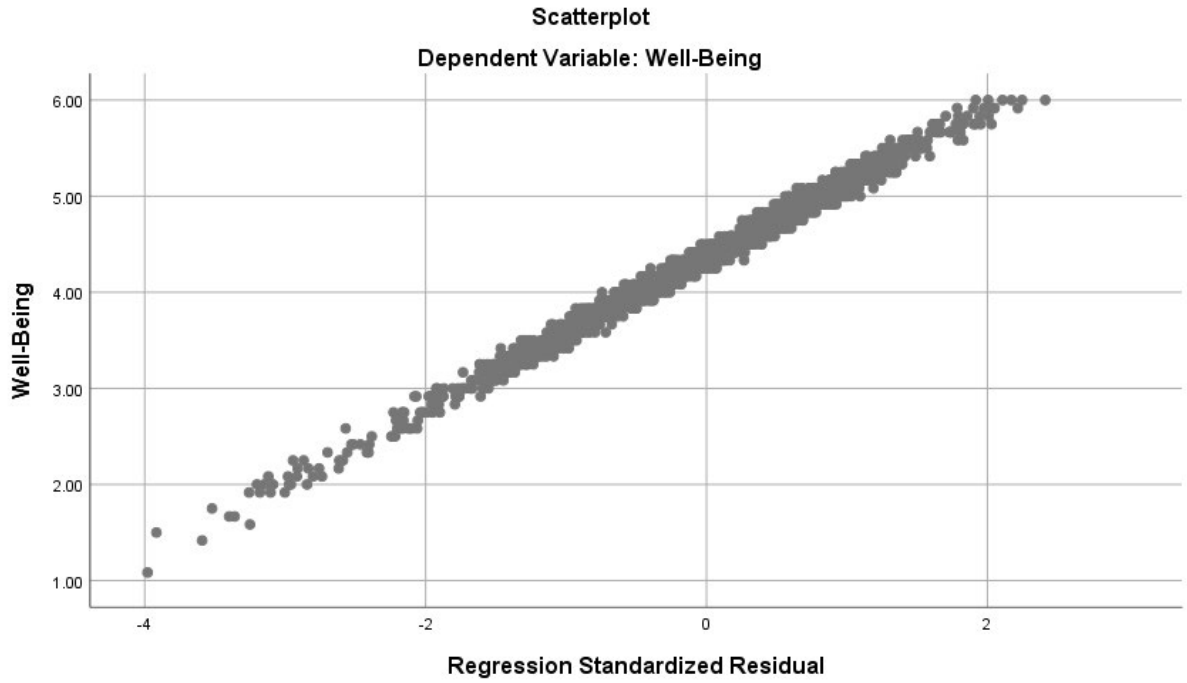


Figure 35: Well-being predicted by exploration

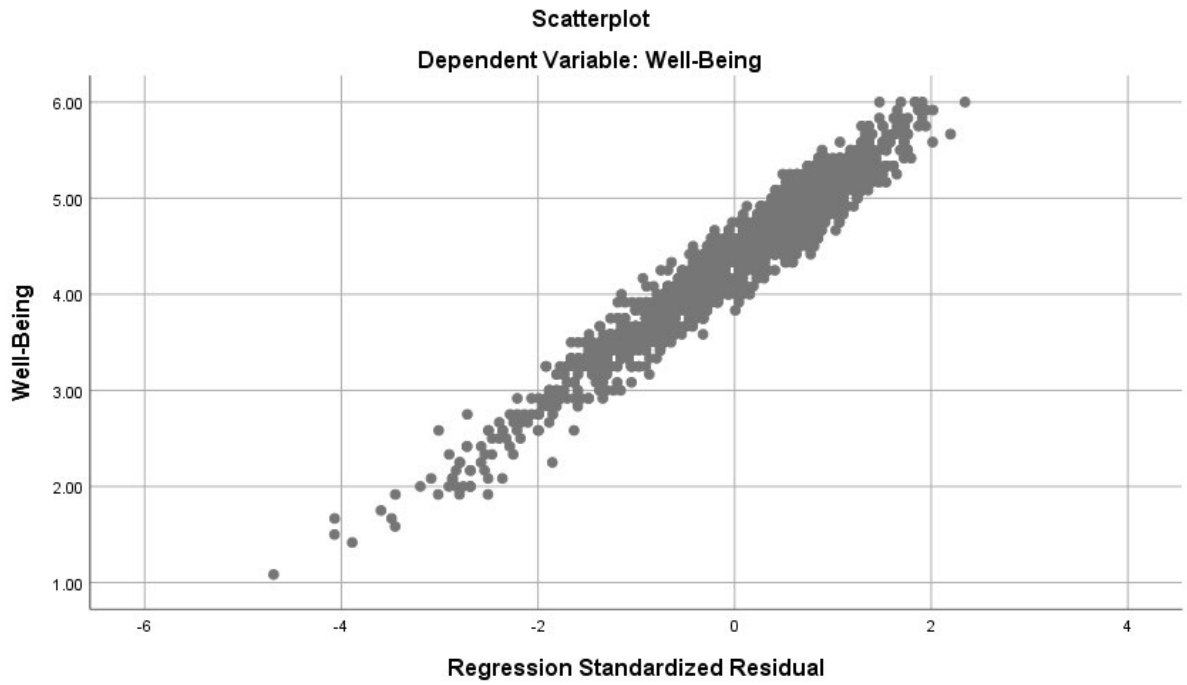


Figure 36: Well-being predicted by extraversion

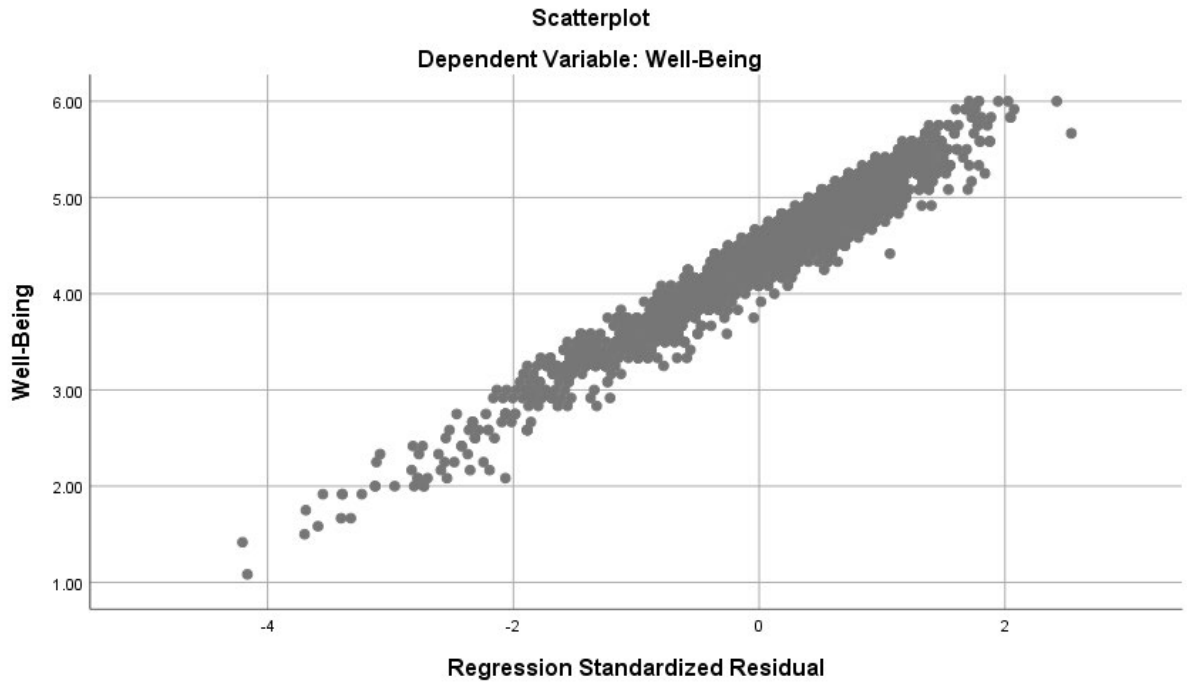


Figure 37: Well-being predicted by agreeableness

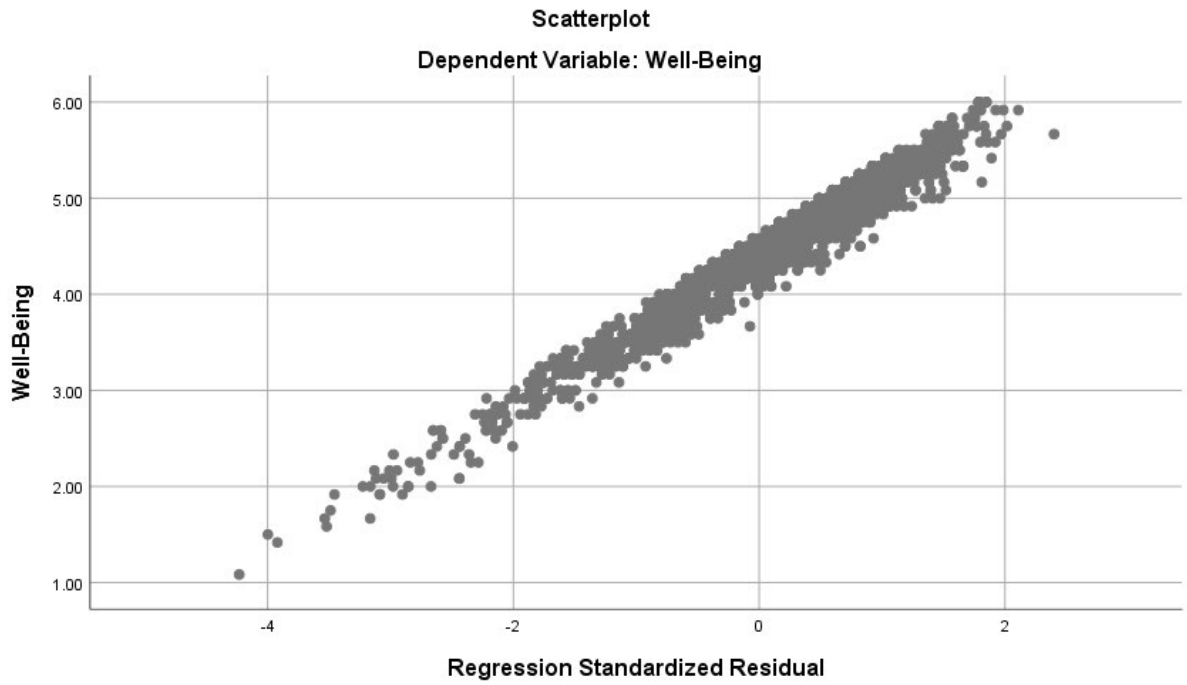


Figure 38: Well-being predicted by conscientiousness

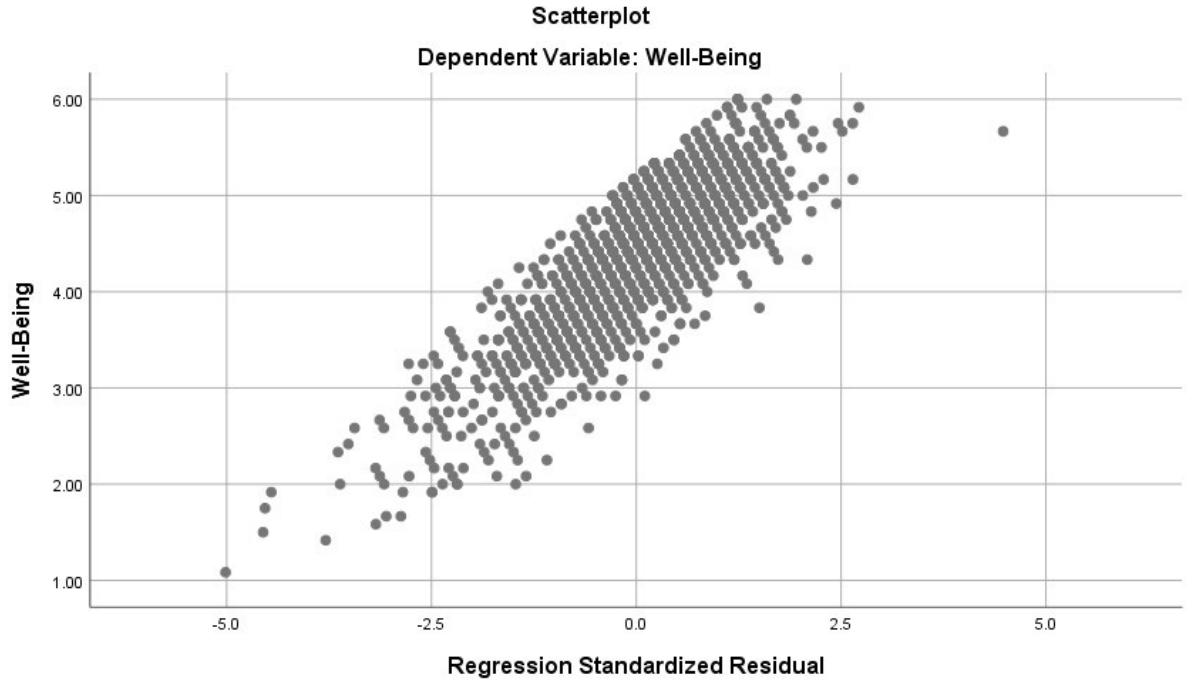


Figure 39: Well-being predicted by negative emotion

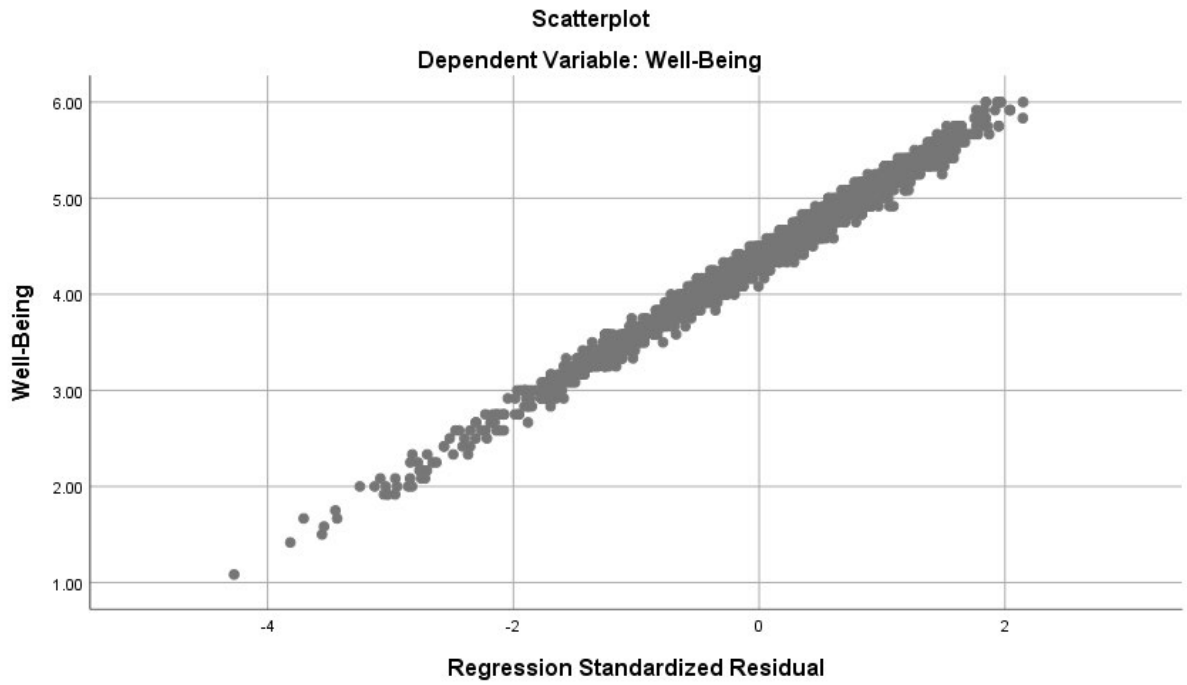


Figure 40: Well-being predicted by open-mindedness

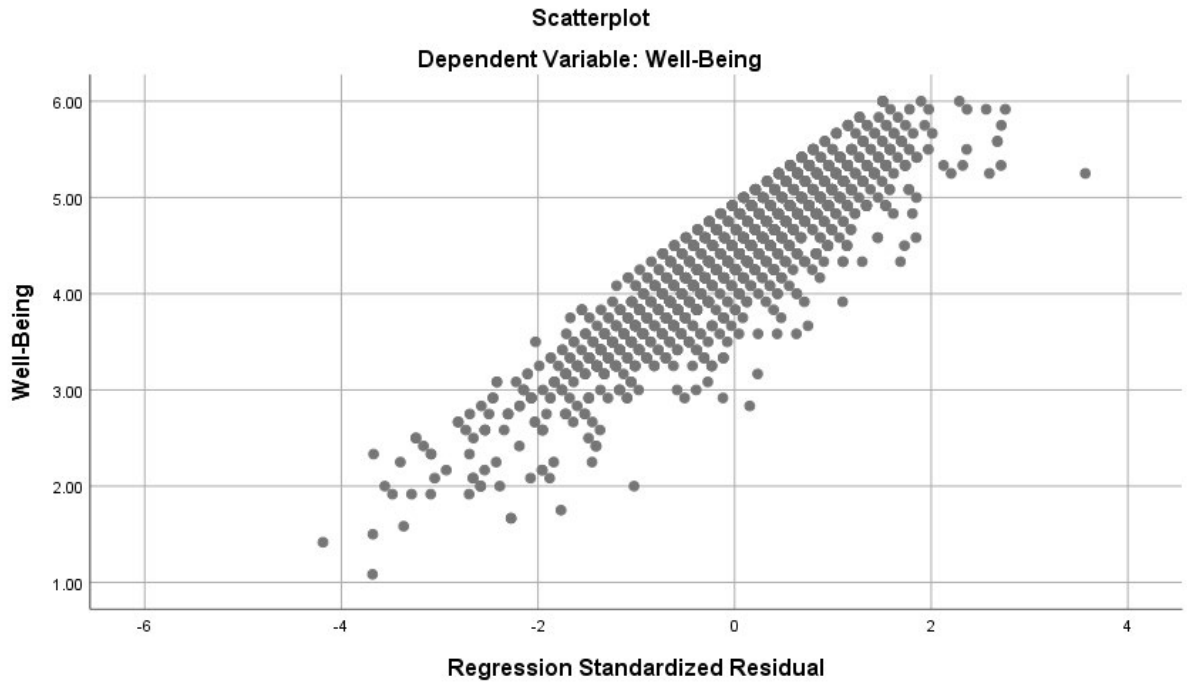


Figure 41: Well-being predicted by vision

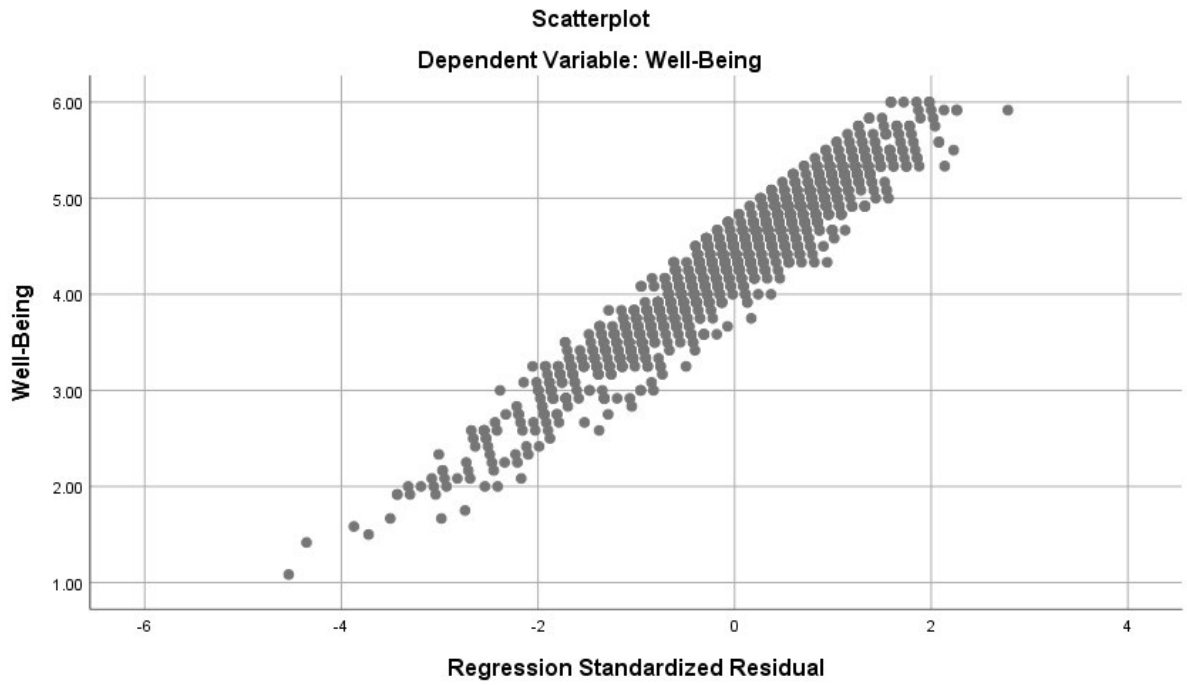


Figure 42: Well-being predicted by task orientation

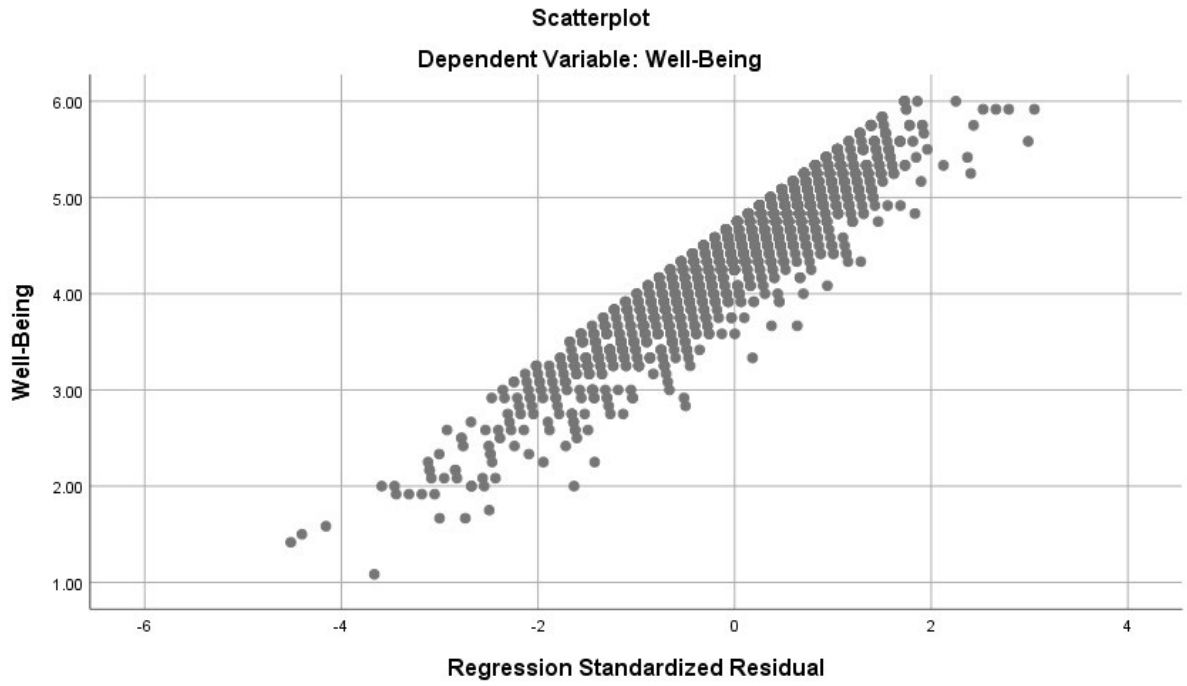


Figure 43: Well-being predicted by participative safety

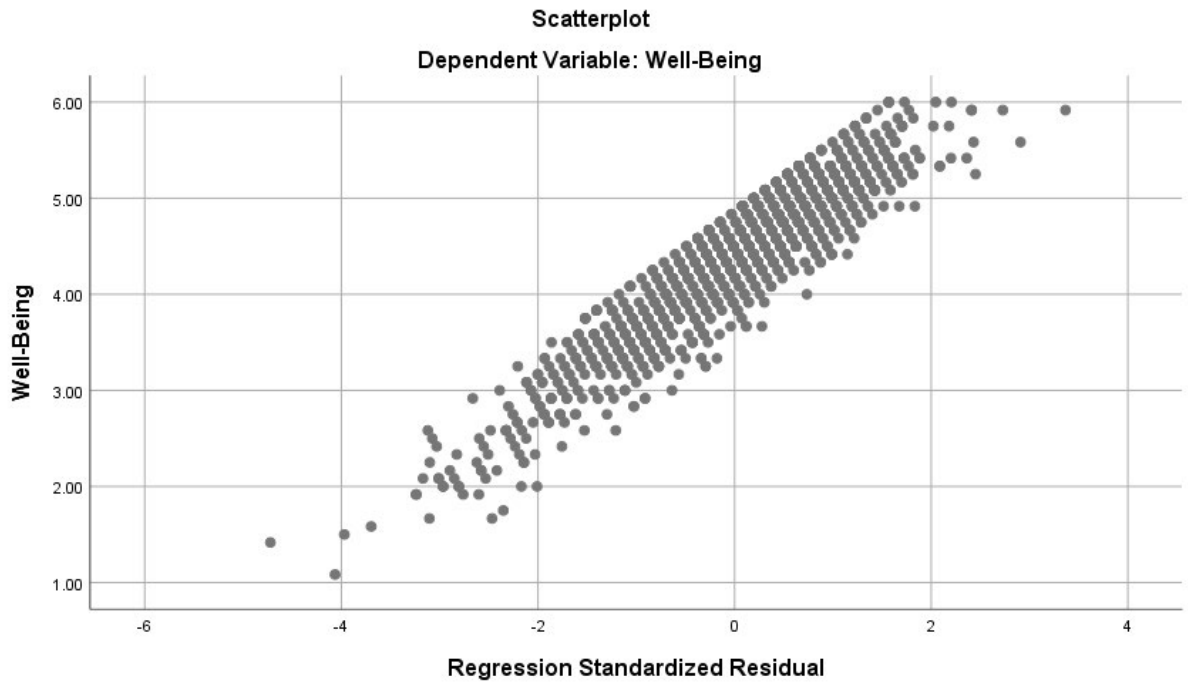


Figure 44: Well-being predicted by support for innovation

Appendix F – Confirmatory Factor Analysis

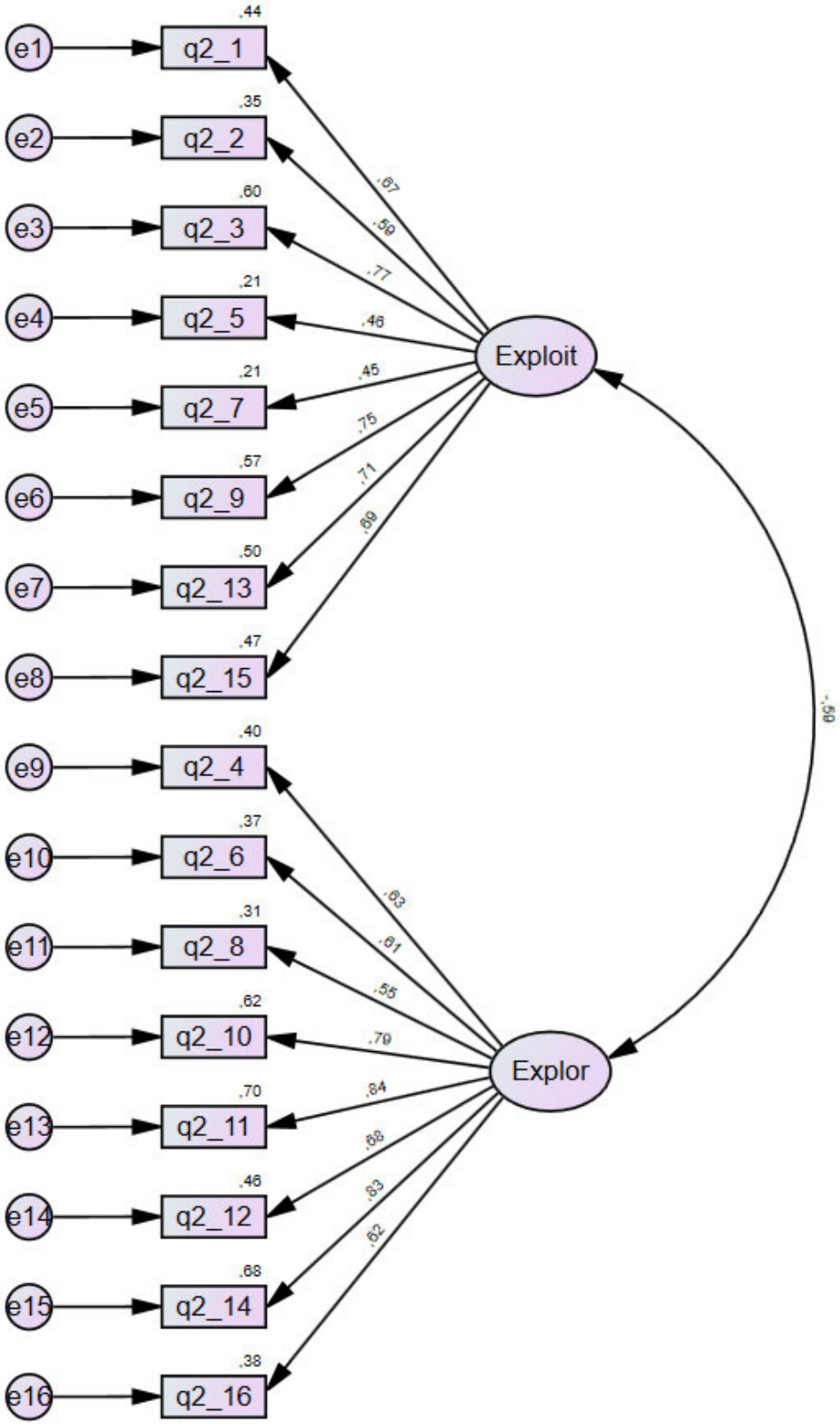


Figure 45: Initial path diagram for Ambidexterity

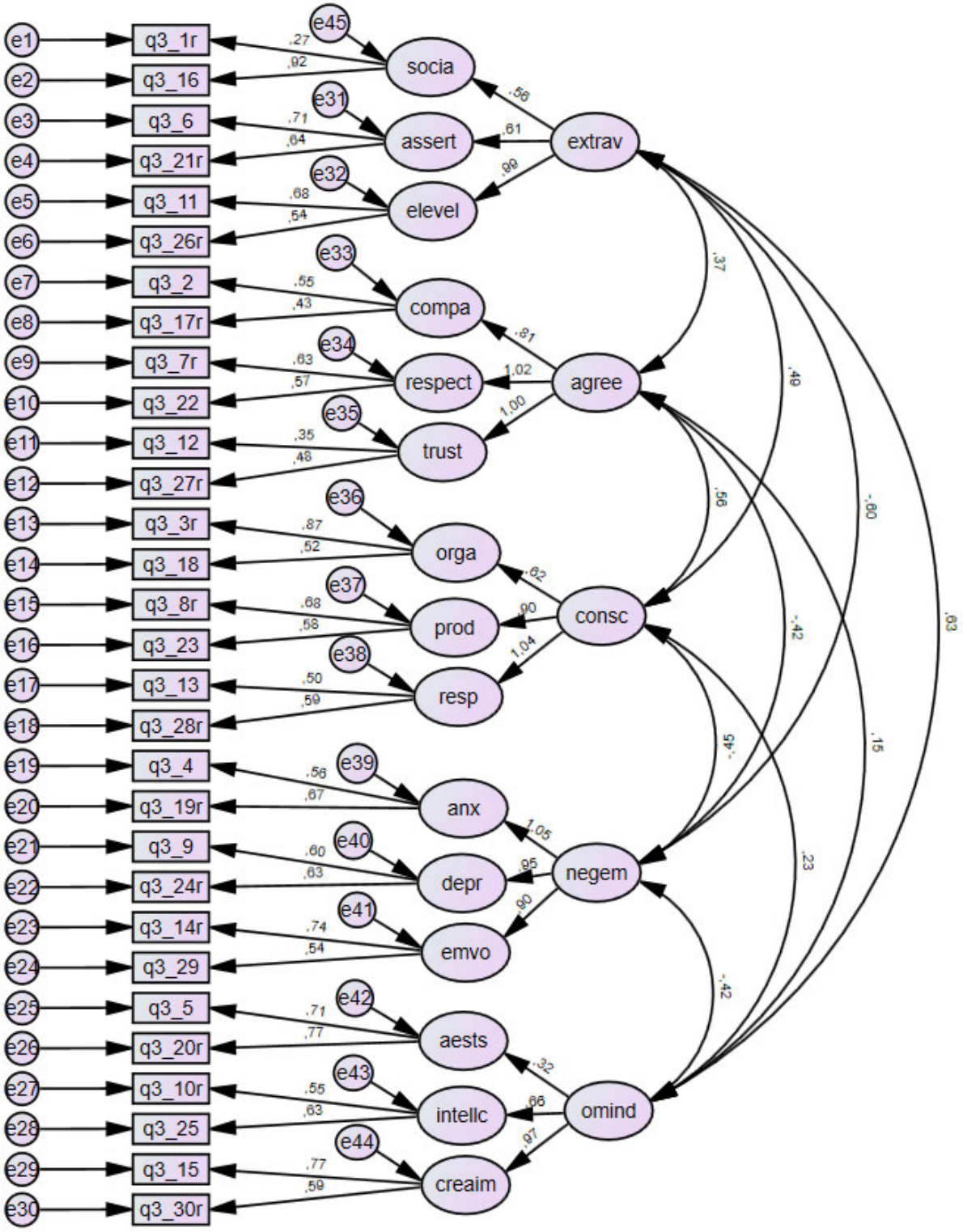


Figure 46: Initial path diagram for Personality

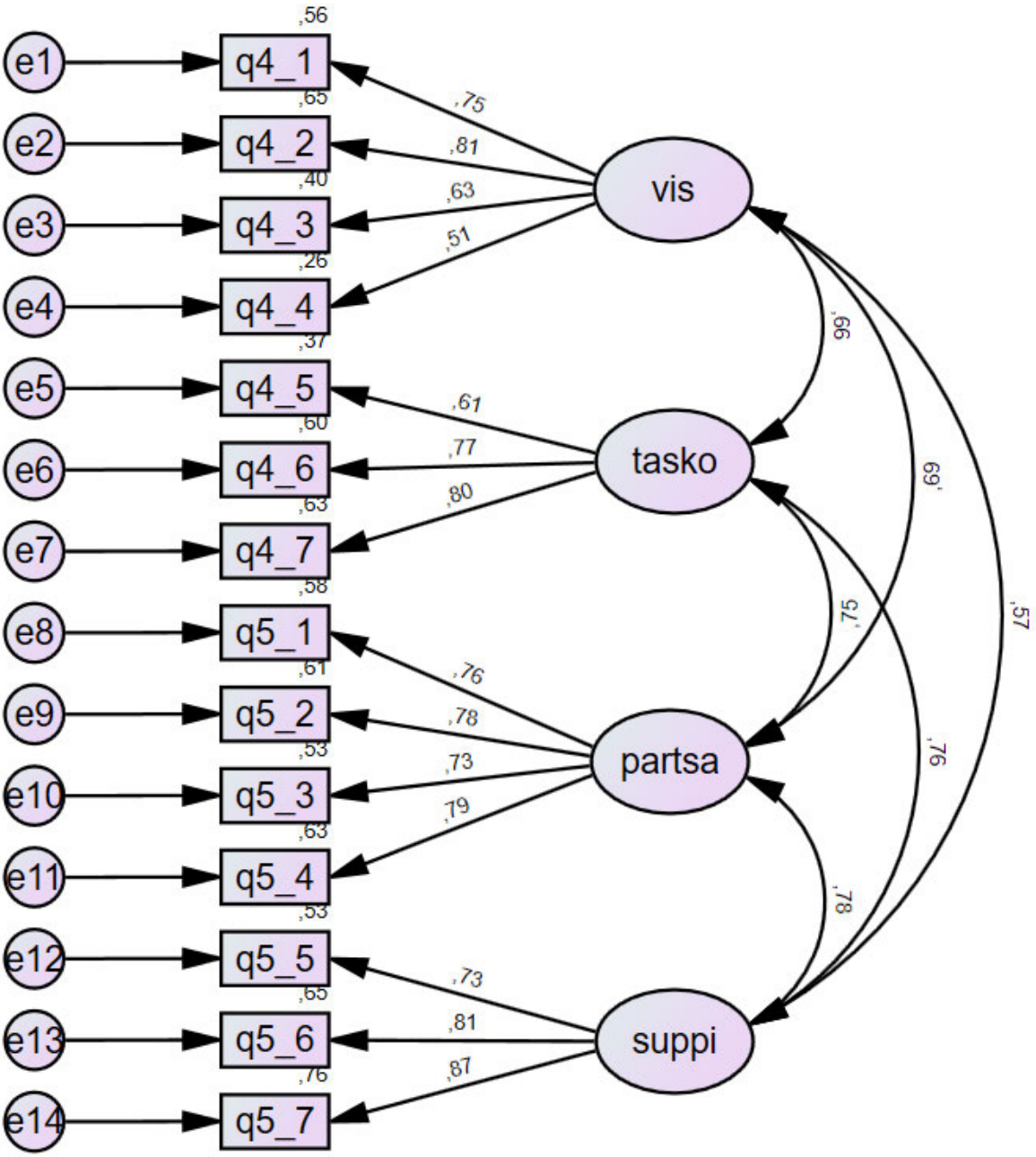


Figure 47: Initial path diagram for team climate

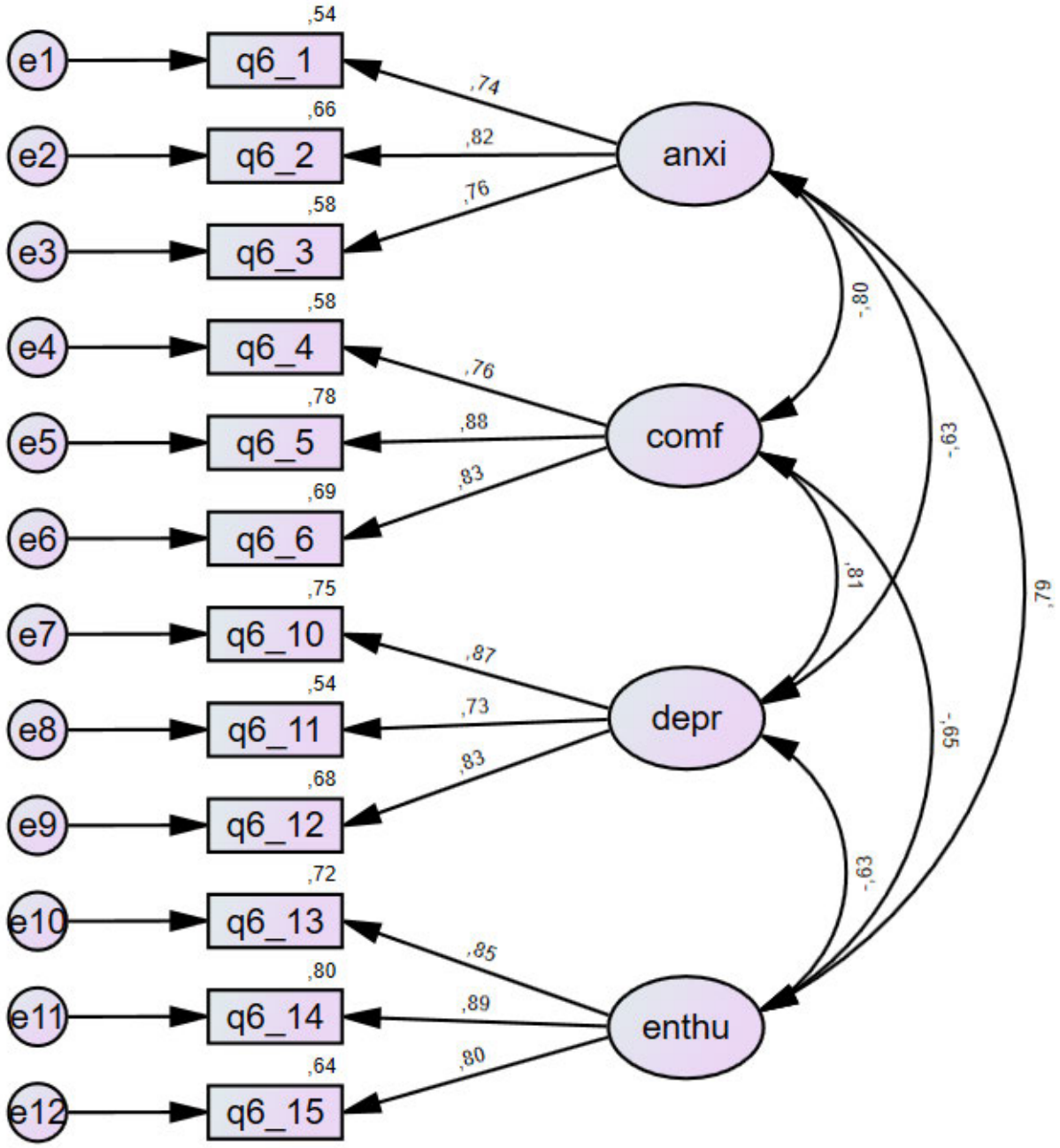


Figure 48: Initial path diagram for Well-Being

Appendix G – Common latent factor models

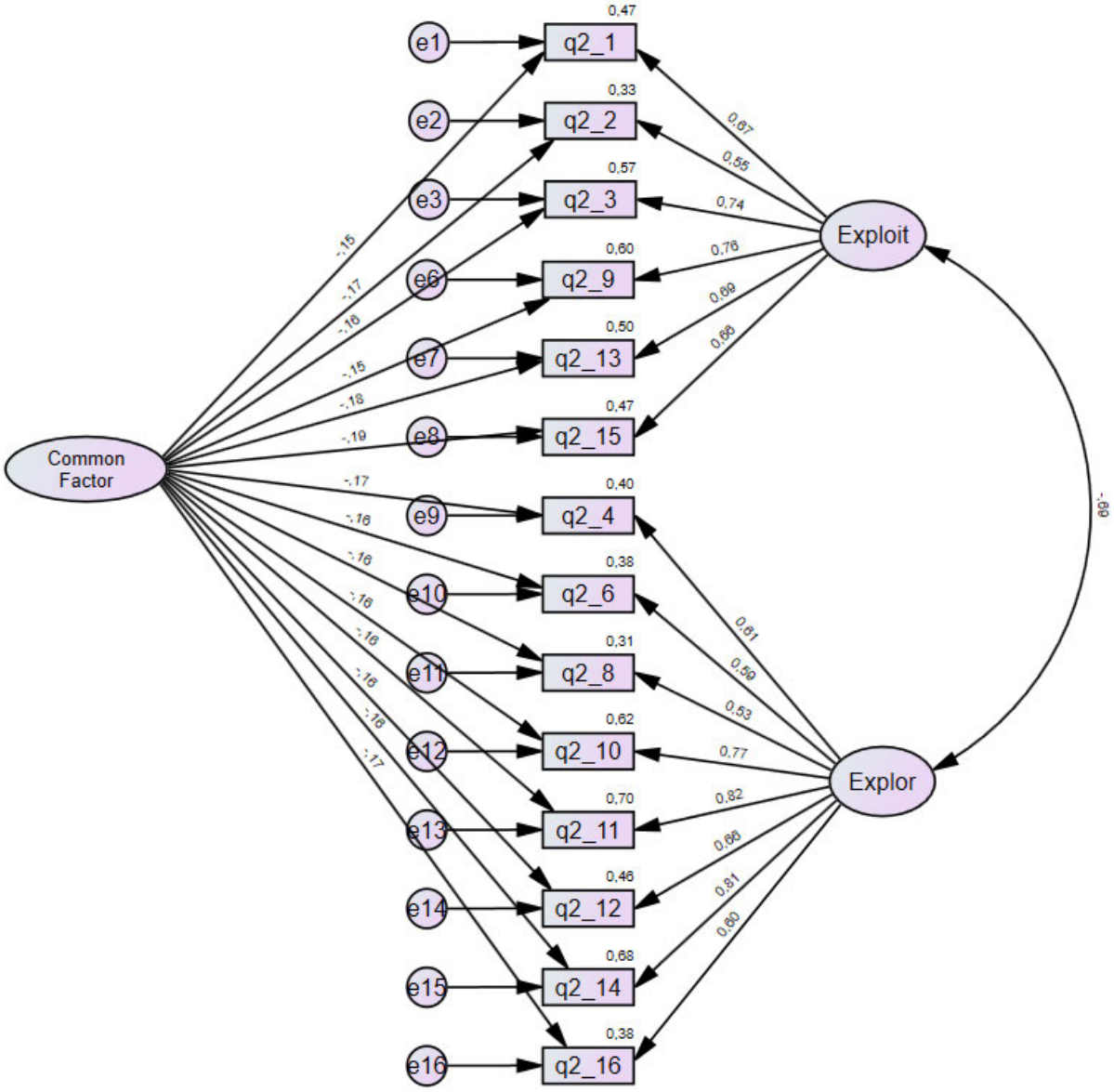


Figure 49: CLF path diagram for Ambidexterity

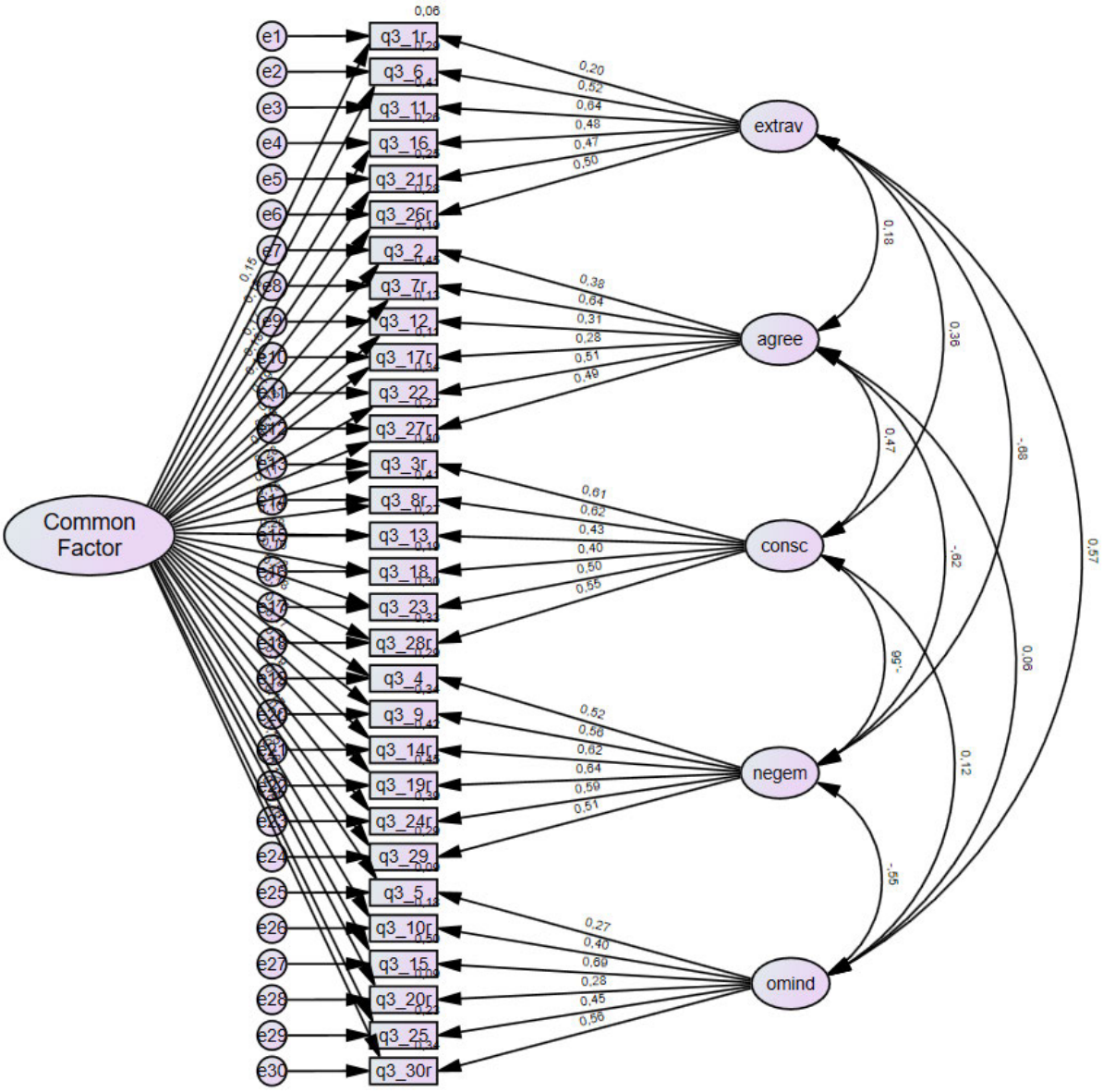


Figure 50: CLF path diagram for Personality

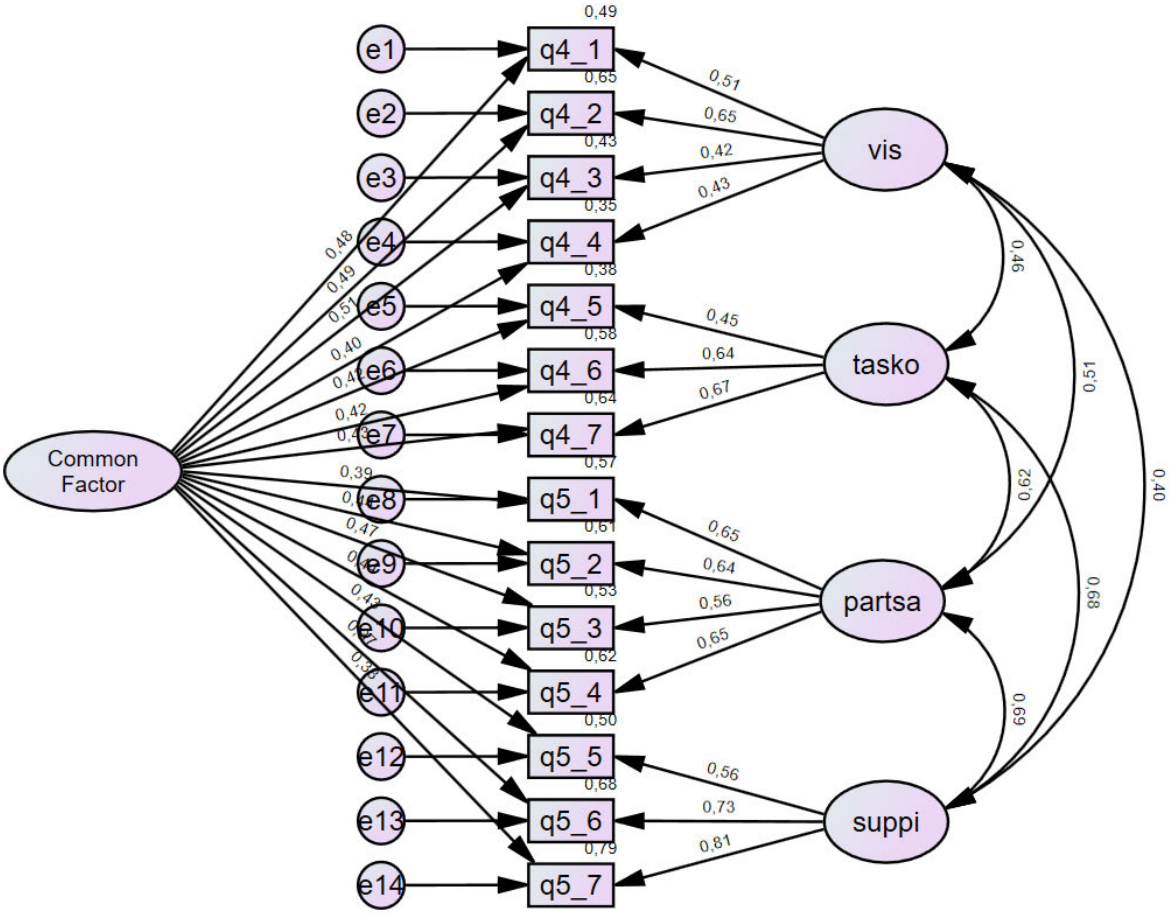


Figure 51: CLF path diagram for Team Climate

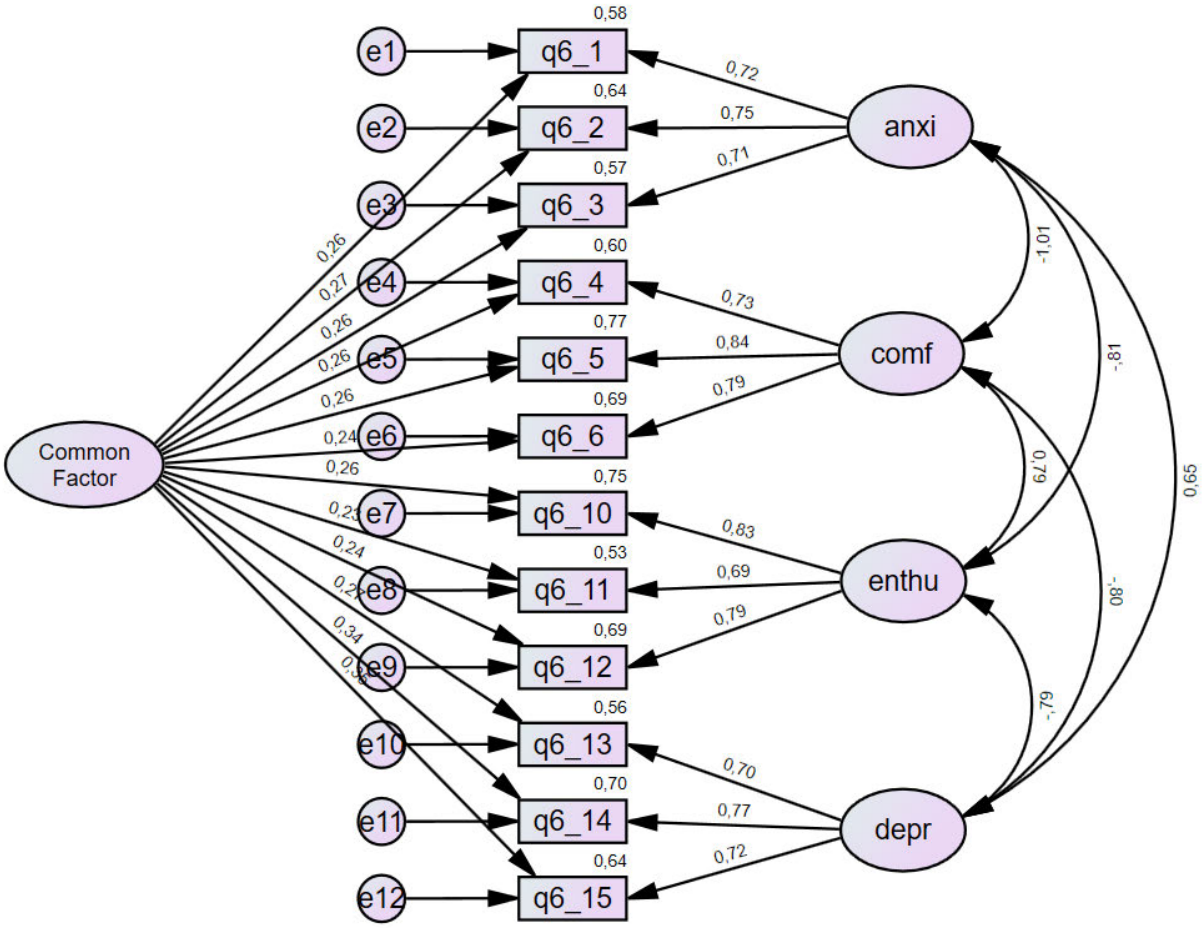


Figure 52: CLF path diagram for Well-Being

Appendix H – SEM Analysis of the moderating effect of team climate in isolation

Table 39: SEM results of the initial Team Climate model

Fit Index	Result	Goodness-of-fit
p	-	-
CMIN	.000	Satisfactory
df	0	Satisfactory
CMIN/df	.000	Satisfactory
GFI	1.000	Satisfactory
CFI	1.000	Satisfactory
RMSEA	.300	Unsatisfactory
SRMR	.0000	Satisfactory

Table 40: SEM results of the modified Team Climate model

Fit Index	Result	Goodness-of-fit
p	.725	Satisfactory
CMIN	.124	Satisfactory
df	1	Satisfactory
CMIN/df	.124	Satisfactory
GFI	1.000	Satisfactory
CFI	1.000	Satisfactory
RMSEA	.000	Satisfactory
SRMR	.0000	Satisfactory

Table 41: Regression weights for the modified Team Climate model

			Estimate	S.E.	C.R.	P	Label
WellBeing	<---	Ambidexterity	-,028	,022	-1,247	,212	
WellBeing	<---	TaskOrientation	-,049	,030	-1,649	,099	
WellBeing	<---	ParticipativeSafety	,070	,032	2,180	,029	
WellBeing	<---	Ambidexterity _x_ ParticipativeSafety	-,025	,032	-,777	,437	
WellBeing	<---	Support4Innovation	,205	,032	6,434	***	
WellBeing	<---	Ambidexterity _x_ Support4Innovation	,018	,030	,608	,543	
WellBeing	<---	Vision	,321	,027	11,897	***	
WellBeing	<---	Ambidexterity _x_Vision	-,012	,025	-,475	,635	

*Note: *P < 0.10(T≧1.64); **P < 0.05(T≧1.96); ***P < 0.01(T≧2.58).*

Appendix I – Statistics of the sample

Table 42: Descriptive statistics of the sample

Descriptive statistics

	Total		German		French	
	Frequency	*Percent*	*Frequency*	*Percent*	*Frequency*	*Percent*
Language	*n=3454*	*100.0*				
German	2937	85.0				
French	517	15.0				
Gender	*n=3454*	*100.0*	*n=2937*	*100.0*	*n=517*	*100.0*
male	1850	53.6	1576	53.7	274	53.0
female	1604	46.4	1361	46.3	243	47.0
divers	0	0.0	0	0.0	0	0.0
prefer not to say	0	0.0	0	0.0	0	0.0
Age	*n=3454*	*100.0*	*n=2937*	*100.0*	*n=517*	*100.0*
-24	144	4.2	132	4.5	12	2.3
25 - 29	281	8.1	253	8.6	28	5.4
30 - 39	809	23.4	735	25.1	74	14.3
40 - 49	919	26.6	778	26.5	141	27.4
50 - 59	1046	30.3	840	28.6	206	39.8
60+	255	7.4	197	6.7	56	10.8
Educational qualification	*n=3454*	*100.0*	*n=2937*	*100.0*	*n=517*	*100.0*
Compulsory education without completed vocational education and training (VET)	201	5.8	151	5.1	50	9.7
Exclusively in-house vocational training not recognised by the State Secretariat for Education, Research, and Innovation SERI	166	4.8	103	3.5	63	12.2
Vocational education and training (VET) which leads to the award of a Federal VET Diploma or a Federal VET certificate, full-time vocational school, secondary specialised school or equivalent	939	27.2	774	26.4	165	31.9
Baccalaureate, federal vocational baccalaureate, specialised baccalaureate or equivalent	176	5.1	140	4.8	36	6.9
Teacher's certificate at various levels: Primary teacher training (for teaching at kindergarten, primary school, needlework and handicrafts, cooking) or equivalent	22	0.6	12	0.4	10	1.9
Federal PET diploma, Advanced federal PET diploma, College of professional education and training degree or equivalent	1001	29.0	895	30.5	106	20.5
University of applied sciences (UAS), University of teacher education (UTE) or equivalent	487	14.1	451	15.3	36	7.0
University or institute of technology (UIT)	462	13.4	411	14.0	51	9.9
Academic title	*N=949*		*n=862*		*n=87*	
Bachelor	249	7.2	216	7.3	33	6.4
Master	653	18.9	605	20.6	48	9.3
Doctorate	47	1.4	41	1.4	6	1.2
Functional area	*n=3454*	*100.0*	*n=2937*	*100.0*	*n=517*	*100.0*
Assistance functions / Administration	132	3.8	117	4.0	15	2.9
Procurement	66	1.9	63	2.1	3	0.6
Finance	454	13.1	420	14.3	34	6.6
Business management / development	88	2.5	83	2.8	5	1.0

Information technology	298	8.6	278	9.5	20	3.9
Infrastructure / Security / Real estate	96	2.8	83	2.8	13	2.5
Logistics / Production	508	14.7	365	12.4	143	27.7
Marketing / Communication	229	6.6	210	7.2	19	3.7
Project / Process management	305	8.8	283	9.6	22	4.3
Human Resources	513	14.9	432	14.7	81	15.7
Customer advice	369	10.7	276	9.4	93	18.0
Transport	66	1.9	54	1.8	12	2.3
Legal / Compliance / Governance	12	0.3	5	0.2	7	1.4
Sales	318	9.2	268	9.1	50	9.7
Tenure in company	*n=3454*	*100.0*	*n=2937*	*100.0*	*n=517*	*100.0*
less than 1 year	237	6.9	213	7.3	24	4.6
1 to 3 years	627	18.2	549	18.7	78	15.1
4 to 9 years	743	21.5	676	23.0	67	13.0
10 to 29 years	1115	32.3	939	32.0	176	34.0
30 years and more	732	21.2	560	19.1	172	33.3
Line manager	*n=3454*	*100.0*	*n=2937*	*100.0*	*n=517*	*100.0*
yes	533	15.4	486	16.5	47	9.1
no	2921	84.6	2451	83.5	470	90.9

Table 43: Age and gender ratio sample vs. respondents

			Sample			Respondents				
			Gender		Total	Gender				Total
			male	female		male	female	divers	prefer not to say	
Age group	-24	Count	46	98	144	22	44	0	0	66
		% within Age group	31.9%	68.1%	4.2%	33.3%	66.7%	0.0%	0.0%	3.9%
	25 - 29	Count	115	166	281	57	83	0	5	145
		% within Age group	40.9%	59.1%	8.1%	39.3%	57.2%	0.0%	3.4%	8.8%
	30 - 39	Count	363	446	809	185	179	1	4	369
		% within Age group	44.9%	55.1%	23.4%	50.1%	48.5%	0.3%	1.1%	22.3%
	40 - 49	Count	505	414	919	248	204	0	5	457
		% within Age group	54.9%	45.1%	26.6%	54.3%	44.6%	0.0%	1.1%	27.6%
	50 - 59	Count	658	388	1046	382	139	0	2	523
		% within Age group	62.9%	37.1%	30.3%	73.0%	26.6%	0.0%	0.4%	31.6%
	60+	Count	163	92	255	76	21	0	0	97
		% within Age group	63.9%	36.1%	7.4%	78.4%	21.6%	0.0%	0.0%	5.8%
Total		Count	1850	1604	3454	970	670	1	16	1657

	% within Age group	53.6%	46.4%	100.0%	58.5%	40.4%	0.1%	1.0%	100.0%

Appendix J – Pilot test analyses

Table 44: Profiles of the pilot test participants

Descriptive statistics

	Total		German		French	
	Frequency	*Percent*	*Frequency*	*Percent*	*Frequency*	*Percent*
Language	*n=99*	*100.0*				
German	86	86.9				
French	13	13.1				
Gender	*n=99*	*100.0*	*n=86*	*100.0*	*n=13*	*100.0*
male	63	63.6	54	62.8	9	69.2
female	34	34.3	30	34.9	4	30.8
divers	0	0.0	0	0	0	0.0
prefer not to say	2	2.0	2	2.3	0	0.0
Age	*n=99*	*100.0*	*n=86*	*100.0*	*n=13*	*100.0*
20-24	2	2.0	2	2.3	0	0.0
25-34	22	22,2	21	24.4	1	7.7
35-44	27	27.3	24	27.9	3	23.1
45-59	44	44.4	35	40.7	0	0.0
60+	4	4.1	4	4.7	9	69.2
Educational qualification	*n=99*	*100.0*	*n=86*	*100.0*	*n=13*	*100.0*
Compulsory education without completed vocational education and training (VET)	0	0.0	0	0.0	0	0.0
Exclusively in-house vocational training not recognised by the State Secretariat for Education, Research, and Innovation SERI	0	0.0	0	0.0	0	0.0
Vocational education and training (VET) which leads to the award of a Federal VET Diploma or a Federal VET certificate, full-time vocational school, secondary specialised school or equivalent	12	12.1	11	12.8	1	7.7
Baccalaureate, federal vocational baccalaureate, specialised baccalaureate or equivalent	4	4.0	2	2.3	2	15.4
Teacher's certificate at various levels: Primary teacher training (for teaching at kindergarten, primary school, needlework and handicrafts, cooking) or equivalent	0	0.0	0	0.0	0	0.0
Federal PET diploma, Advanced federal PET diploma, College of professional education and training degree or equivalent	31	31.3	28	32.6	3	23.1
University of applied sciences (UAS), University of teacher education (UTE) or equivalent	30	30.3	27	31.4	3	23.1
University or institute of technology (UIT)	22	22.2	18	20.9	4	30.8
Academic title	*N=52*	*52.5*	*n=45*	*52.3*	*n=7*	*53.9*
Bachelor	8	8,1	8	9,3	0	0.0
Master	41	41,4	36	41,9	5	38.5
Doctorate	3	3,0	1	1,2	2	15.4
Functional area	*n=99*	*100.0*	*n=86*	*100.0*	*n=13*	*100.0*
Assistance functions / Administration	2	2.0	2	2.3	0	0.0
Procurement	0	0.0	0	0.0	0	0.0
Finance / Controlling	0	0.0	0	0.0	0	0.0

Business management / development	18	18.2	14	16.3	4	30.8
Information technology	9	91	8	9.3	1	7.7
Infrastructure / Security / Real estate	0	0.0	0	0.0	0	0.0
Logistics / Production	1	1.0	1	1.2	0	0.0
Marketing / Communication	54	54.5	46	53.5	8	61.5
Project / Process management	8	8.1	8	9.3	0	0.0
Human Resources	0	0.0	0	0.0	0	0.0
Customer advice	4	4.0	4	4.7	0	0.0
Transport	0	0.0	0	0.0	0	0.0
Legal / Compliance / Governance	0	0.0	0	0.0	0	0.0
Sales	3	3.0	3	3.5	0	0.0
Tenure in company	*n=99*	*100.0*	*n=86*	*100.0*	*n=13*	*100.0*
less than 1 year	11	11.1	8	9.3	3	23.1
1 to 3 years	18	18.2	15	17.4	3	23.1
4 to 9 years	21	21.2	21	24.4	0	0.0
10 to 29 years	33	33.3	31	36.0	2	15.3
30 years and more	16	16.2	11	12.8	5	38.5
Tenure on job	*n=99*	*100.0*	*n=86*	*100.0*	*n=13*	*100.0*
less than 1 year	17	17.2	14	16.3	3	23.1
1 to 3 years	40	40.4	34	39.5	6	46.2
4 to 9 years	24	24.2	23	26.7	1	7.7
10 to 29 years	18	18.2	15	17.4	3	23.1
30 years and more	0	0.0	0	0.0	0	0.0
Line manager	*n=99*	*100.0*	*n=86*	*100.0*	*n=13*	*100.0*
yes	25	25.3	21	24.4	4	30.8
no	74	74.7	65	75.6	9	69.2

Appendix K – Item Overview

Scale	Dimension	Question	Label	Reverse-scored	Measurement scale
Ambidexterity	Exploitation	q2_1	1. frequently recurring activities		metric
Ambidexterity	Exploitation	q2_2	2. easily plannable activities		metric
Ambidexterity	Exploitation	q2_3	3. activities whose execution is completely clear		metric
Ambidexterity	Exploration	q2_4	4. activities that require a completely different strategy		metric
Ambidexterity	Exploitation	q2_5	5. activities that refer to a clearly defined problem area		metric
Ambidexterity	Exploration	q2_6	6. activities that are so complex that they are difficult to survey at the start		metric
Ambidexterity	Exploitation	q2_7	7. activities that can be carried out within a previously defined period		metric
Ambidexterity	Exploration	q2_8	8. activities in which you do not acquire the competences required for carrying them out until you actually carry them out		metric
Ambidexterity	Exploitation	q2_9	9. activities that you carry out very routinely		metric
Ambidexterity	Exploration	q2_10	10. activities that are so complex that they are difficult to survey at the start		metric
Ambidexterity	Exploration	q2_11	11. activities in which you have to deal with previously unknown situations		metric
Ambidexterity	Exploration	q2_12	12. activities that require a good deal of adaptability on your part		metric
Ambidexterity	Exploitation	q2_13	13. activities you carry out in accordance with a familiar pattern		metric
Ambidexterity	Exploration	q2_14	14. activities in which you enter previously unknown territory		metric
Ambidexterity	Exploitation	q2_15	15. activities for which you are well prepared		metric
Ambidexterity	Exploration	q2_16	16. activities in which you reach the limits of your knowledge		metric
Personality	Extraversion	q3_1	1. Tends to be quiet.	x (5-point scale)	metric
Personality	Agreeableness	q3_2	2. Is compassionate, has a soft heart.		metric
Personality	Conscientiousness	q3_3	3. Tends to be disorganized.	x (5-point scale)	metric
Personality	Negative Emotionality	q3_4	4. Worries a lot.		metric
Personality	Open Mindedness	q3_5	5. Is fascinated by art, music, or literature.		metric
Personality	Extraversion	q3_6	6. Is dominant, acts as a leader.		metric

Personality	Agreeableness	q3_7	7. Is sometimes rude to others.	x (5-point scale)	metric
Personality	Conscientiousness	q3_8	8. Has difficulty getting started on tasks.	x (5-point scale)	metric
Personality	Negative Emotionality	q3_9	9. Tends to feel depressed, blue.		metric
Personality	Open Mindedness	q3_10	10. Has little interest in abstract ideas.	x (5-point scale)	metric
Personality	Extraversion	q3_11	11. Is full of energy.		metric
Personality	Agreeableness	q3_12	12. Assumes the best about people.		metric
Personality	Conscientiousness	q3_13	13. Is reliable, can always be counted on.		metric
Personality	Negative Emotionality	q3_14	14. Is emotionally stable, not easily upset.	x (5-point scale)	metric
Personality	Open Mindedness	q3_15	15. Is original, comes up with new ideas.		metric
Personality	Extraversion	q3_16	16. Is outgoing, sociable.		metric
Personality	Agreeableness	q3_17	17. Can be cold and uncaring.	x (5-point scale)	metric
Personality	Conscientiousness	q3_18	18. Keeps things neat and tidy.		metric
Personality	Negative Emotionality	q3_19	19. Is relaxed, handles stress well.	x (5-point scale)	metric
Personality	Open Mindedness	q3_20	20. Has few artistic interests.	x (5-point scale)	metric
Personality	Extraversion	q3_21	21. Prefers to have others take charge.	x (5-point scale)	metric
Personality	Agreeableness	q3_22	22. Is respectful, treats others with respect.		metric
Personality	Conscientiousness	q3_23	23. Is persistent, works until the task is finished.		metric
Personality	Negative Emotionality	q3_24	24. Feels secure, comfortable with self.	x (5-point scale)	metric
Personality	Open Mindedness	q3_25	25. Is complex, a deep thinker.		metric
Personality	Extraversion	q3_26	26. Is less active than other people.	x (5-point scale)	metric
Personality	Agreeableness	q3_27	27. Tends to find fault with others.	x (5-point scale)	metric
Personality	Conscientiousness	q3_28	28. Can be somewhat careless.	x (5-point scale)	metric
Personality	Negative Emotionality	q3_29	29. Is temperamental, gets emotional easily.		metric
Personality	Open Mindedness	q3_30	30. Has little creativity.	x (5-point scale)	metric
Team Climate	Vision	q4_1	1. How far are you in agreement with the objectives of your team?		metric
Team Climate	Vision	q4_2	2. To what extent do you think your team's objectives are clearly understood by other members of the team?		metric
Team Climate	Vision	q4_3	3. To what extent do you think your team's objectives can actually be achieved?		metric
Team Climate	Vision	q4_4	4. How worthwhile do you think these objectives are to the organisation?		metric
Team Climate	Task orientation	q4_5	5. Are team members prepared to question the basis of what the team is doing?		metric

Team Climate	Task orientation	q4_6	6. Does the team critically appraise potential weaknesses in what it is doing in order to achieve the best possible outcome?		metric
Team Climate	Task orientation	q4_7	7. Do members of the team build on each other's ideas in order to achieve the best possible outcome?		metric
Team Climate	Participative Safety	q5_1	8. We have a 'we are in it together' attitude		metric
Team Climate	Participative Safety	q5_2	9. People keep each other informed about work-related issues in the team		metric
Team Climate	Participative Safety	q5_3	10. People feel understood and accepted by each other		metric
Team Climate	Participative Safety	q5_4	11. There are real attempts to share information throughout the team		metric
Team Climate	Support for Innovation	q5_5	12. People in this team are always searching for fresh, new ways of looking at problems		metric
Team Climate	Support for Innovation	q5_6	13. In this team we take the time needed to develop new ideas		metric
Team Climate	Support for Innovation	q5_7	14. People in the team cooperate in order to help develop and apply new ideas		metric
Well-being	anxiety	q6_1	1. tense	x (6-point scale)	metric
Well-being	anxiety	q6_2	2. uneasy	x (6-point scale)	metric
Well-being	anxiety	q6_3	3. worried	x (6-point scale)	metric
Well-being	comfort	q6_4	4. calm		metric
Well-being	comfort	q6_5	5. contented		metric
Well-being	comfort	q6_6	6. relaxed		metric
Well-being	enthusiasm	q6_7	7. depressed	x (6-point scale)	metric
Well-being	enthusiasm	q6_8	8. gloomy	x (6-point scale)	metric
Well-being	enthusiasm	q6_9	9. miserable	x (6-point scale)	metric
Well-being	depression	q6_10	10. cheerful		metric
Well-being	depression	q6_11	11. enthusiastic		metric
Well-being	depression	q6_12	12. optimistic		metric
Well-being	*enthusiasm*	*q6_13*	*Substitute for question q6_7*	*x (6-point scale)*	*metric*
Well-being	*enthusiasm*	*q6_14*	*Substitute for question q6_8*	*x (6-point scale)*	*metric*
Well-being	*enthusiasm*	*q6_15*	*Substitute for question q6_9*	*x (6-point scale)*	*metric*
Statistical		q7	What is your age?		metric
Statistical		q8	What is your gender?		nominal
Statistical		q9	What is your highest completed degree of education? Please indicate your highest certificate / qualification.		ordinal
Statistical		q15	Please indicate your academic title		ordinal

Statistical		q10	In which job group do you primarily work?		nominal
Statistical		q12	For how long have you been working at Swiss Post?		metric
Statistical		q13	For how long have you been working in your current position?		metric
Statistical		q14	Are you a line manager?		nominal
			responseLanguage		nominal
			language		nominal
			survey_version		nominal