Measuring Individuals' Virtues in Business

Abstract:

This paper argues that Shanahan and Hyman's (2003) Virtue Ethics Scale (VES) should be abandoned and that work should begin to develop better-grounded measures for identifying individual business virtue (IBV) in context. It comes to this conclusion despite the VES being the only existing measure of individuals' virtues that focuses on business people in general, rather than those who hold specific leadership or audit roles.

The paper presents a study that, in attempting to validate the VES, raises significant concerns about its construction. In particular, investigation of the VES items leads to adjustments in the language used and examines participants' understanding of the virtue terms and their descriptors. Confirmatory Factor Analysis of data collected from a sample of 137 HR practitioners establishes that the 6-factor solution identified by Shanahan and Hyman is not appropriate for the sample under examination. Rather, exploratory factor analysis results in three dimensions based in 13 items focusing on the individuals' reliability, resourcefulness, and leadership. Finally, multiple regression establishes that these dimensions do not on the whole show associations with MA or PRESOR, two measures through which it would be expected to establish convergent and divergent validity. The paper concludes by suggesting guidelines for the development of future measures of IBV.

Introduction

Studies of virtue ethics have begun to examine how the concepts related to philosophical theories may be measured in practice. This paper reports on part of a wider study that attempted to validate existing measures of individual and organisational virtue and examine their interaction within a wider range of concepts related to ethics[1]. Indeed, although studies have developed measures at the individual (Libby and Thorne, 2007; Riggio et al., 2010; Sarros et al., 2006; Seijts et al., 2015; Shanahan and Hyman, 2003; Thun and Kelloway, 2011; Wang and Hackett, 2016), team (Palanski et al., 2011; Rego et al., 2013, 2015) and organisational level (Cameron et al., 2004, 2011; Chun, 2005; Fernando and Moore, 2015; Kaptein , 2008; Moore, 2012a) limited work has taken place to validate these measures after they have been created. It is important to establish credible measures of virtue and that existing measures undergo critical examination and testing. Only through testing of measures across different samples and locations will their credibility be established. This paper reports on the element of the study that focused on the measurement of individuals' virtue when working in a business context.

Focusing on Shanahan and Hyman's (2003) virtue ethics scale (VES), this paper attempts to validate the measure and its ability to measure individual business virtue (IBV) with a sample of established business people. It does this by following through three phases of investigation: (1) examining the nature of the VES items, (2) testing the dimensions of the measure and (3) examining the association of VES dimensions with Moral Attentiveness (MA) and the Perceived Role of Ethics and Social Responsibility in creating organisational effectiveness (PRESOR), two measures with which it should be possible to establish

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[1] Another part of the study is reported in Dawson (forthcoming).

convergent and divergent validity. This work raises significant concerns about the VES leading to the recommendation that it be abandoned.

The paper starts by considering 'Progress to the Measurement of Individual Business Virtues' and the background to current efforts to measure peoples' virtues in the business context. It continues to examine 'The Origins of the Virtue Ethics Scale' and its basis in Solomon's (1992, 1999) work. It continues to outline the 'Method' of the study and the three phase process of investigation before presenting the 'Results'. Finally, in the 'Discussion' and 'Conclusions' the implications of the results for the use of the VES in research and practice are discussed.

Progress to the Measurement of Individual Business Virtues

Proponents of virtue ethics argue that the fundamental question for ethics to answer is 'what kind of person should I be?' rather than 'what should I do?' As a result, it puts people and their characteristics in the foreground and focuses on how good character traits (the virtues) and the habits they invoke lead people to work for the good and promote human flourishing (Dawson and Bartholomew, 2003). Human flourishing is focused on peoples' wellbeing and is achieved when they are meeting their physical and emotional potential.

A focus on virtue ethics in business has developed since the late 1980s when authors including Klein (1989), Kohn (1995, 1998), Solomon (1992), Warren (1996) and Whetstone (1998) – recognising a resurgence of virtue ethics in the philosophical literature – introduced it to the business ethics literature. During the early 2000s, debate focused on the potential for

virtue in business (see Beadle, 2002; Dobson, 1997a; Dawson and Bartholomew, 2003; Moore, 2002, 2005). The debate about the use of virtue ethics on the business ethics literature has two strands. The first has focused on answering critiques of virtue as an approach to ethics and the second on more specific concerns about the use of virtue in a business context. Whilst it is beyond the scope of this paper to address these concerns at length, it is important to note how they have been answered by proponents of virtue in the business ethics literature.

Critics of virtue as an approach to ethics have focused on two issues in particular, its ability to direct action and its reliance on character. First, critics argue that virtue fails to provide any meaningful direction to those who want to know what it is to act ethically (e.g. Louden 1984). In response proponents of virtue ethics point out that in the same way that under other approaches to ethics there is a need to educate people so they know what rules they need to follow or outcomes are legitimate to pursue, a person who is new to virtue has to be educated into what it is to be virtuous. This ethical education may use virtue rules, which work to assist people who have less experience of working by virtue and are exploring for the first time how they can contribute to human flourishing given their particular skills, talents and role in society. In short, the virtue approach is no different to others in having to provide education in its operation, but by being clear about the need for induction in to the virtues it brings that process to the fore and opens it up to examination.

Second, critics argue that by relying on character the virtue approach to ethics is deficient. Harman (2000, 2003, 2009) argues that when it is claimed that behaviour results from a person's character that an error of attribution is being made. He argues that it isn't actually differences in character that lead people to act in particular ways, but it is the situational

differences that people find themselves in. Whilst acknowledging the different challenges

that may be presented in the situations that people who are acting by virtue face, the repost

provided by proponents of virtue to the situationalist critique is both simple and clear cut.   If

people act fundamentally against human flourishing they cannot be counted as virtuous

irrespective of the situation they find themselves in. The proponents of virtue provide the

same response to critics who argue that basing an evaluation of someone on their character is

faulty because a person's character may shift. Because a person moves from behaving by

virtue to not doing so does not mean that the virtue approach is faulty. It only points to that

person having shifted from being virtuous to not being virtuous.

Debate about the legitimacy of using the virtue approach in the context of business has

focused on answering MacIntyre's (1985) critique of management and business more

broadly. MacIntyre (1985) presents a framework that argues that virtue is displayed by those

who work for human flourishing through the performance of practices including medicine,

fishing and farming that are based in community.   He argues that because managers could be

working in any field they lack the ability to contribute to a clearly defined good. Hence

management cannot constitute a practice like farming or fishing. More generally, MacIntyre

(1985) argues that the value-free nature of business and its capitalist foundations will

inevitably lead to the prioritisation of profit and to the practices that he sees as being essential

to virtue being corrupted.

In response, proponents of virtue in the context of business have argued that MacIntyre

promotes a view that fails to recognise the potential for management to support practices and

their associated internal goods through governance (Moore, 2012b) or regulation (Sinnicks,

2014). They also argue that MacIntyre fails to recognise potential for business to support the

virtues (Maitland, 1997) and focus on community (Dawson and Bartholomew, 2003) especially where for many small and medium sized businesses profit is not the dominant driver for their owners. Indeed, Dobson (2016) argues that by focusing on the potential for institutions to corrupt practices rather than rogue practices to corrupt institutions, MacIntyre fundamentally misidentifies the threats to virtue in a business context. Add to this the move to apply the virtue frameworks of other contemporary virtue ethicists that are in many ways less demanding on business (Dawson, 2015), it can be concluded that virtue ethics is at least theoretically useful in discussing how to further the role of ethics in a business context (Beadle, 2013; Dawson, forthcoming; Moore, 2015; Sinnicks, 2014).

Having progressed to the stage where it was accepted that the examination of virtue in a business context is legitimate, the literature began to examine its application to business issues. Studies examined the application of virtue to circus practices (Beadle, 2013), environmental issues (Dawson, 2005), garment manufacturing (Fernando and Moore, 2015), healthcare (Dawson, 2009; Oakley and Cocking, 2001), pharmaceuticals (Fernando and Moore, 2015), and retail organisations (Moore, 2012a; Whetstone, 2003) amongst others. Most recently, there has been a shift in the discussion as attempts in the business ethics literature have moved beyond the application of general frameworks for virtue in business to examine the structure and potential for the measurement of virtues in business. Although some remain sceptical about the possibility of measuring virtues (e.g. Beadle, 2013; Robson, 2015), there have been notable attempts to develop measures in the business arena (Table 1).

INSERT TABLE 1 ABOUT HERE

First to develop a measure of individual business virtue were Shanahan and Hyman (2003), who in creating their Virtue Ethics Scale (VES) were progressive and ahead of other authors examining virtue ethics in a business context. Shanahan and Hyman (2003: 198) developed the VES to "…assess the value placed on aspects of moral character like courage or tolerance" and provide an alternative to measures that use principle based criteria when evaluating ethical decision making. In this, they recognise Virtue Ethics as an alternative to Deontological and Utilitarian approaches where decisions are guided by rules or principles. Libby and Thorne's (2004, 2007) measure of Auditors' virtues is the other example of an attempt to measure individual virtues that comes out of the business ethics literature. When developing their measure, they interviewed Auditors to provide a basis for modifying Pincoffs' (1986) typology of the virtues. Whilst some aspects of this scale's development are to be commended, its concentration on virtues that are highly relevant to the Auditor's role means that it would be unwise to take it as a measure of virtue for people who work in other roles in business.

Moving beyond the business ethics literature, several measures of leadership virtues relevant to business have been developed (Riggio et al., 2010; Thun and Kelloway, 2011; Sarros et al., 2006; Seijts et al., 2015; Wang and Hackett, 2016). Sarros et al.'s (2006) Virtuous Leadership Scale (VLS), that is based on seven items measuring humility, courage, integrity, compassion, humour, passion and wisdom generated by a qualitative study of leaders in Australian business organisations conducted by Barker and Coy (2003), is an early example. On the face of it these virtues could be applied to business people generally. However, it is

important to note that in focusing on leaders the VLS likely excludes virtues that people in business more generally would be expected to hold. This concern is heightened where the items are written so that they are clearly focused on leader behaviours (e.g. Riggio et al., 2010; Wang and Hackett, 2016) and the psychometric properties of all the measures are assessed with data focused on leaders' qualities. Indeed, whilst these measures may be useful in assessing virtue with leaders in business, it is unlikely to be appropriate to use them with people who work in other roles.

So, whilst the field has progressed to a point where several measures of individual virtue in the context of business exist, Shanahan and Hyman's (2003) VES remains the only measure that focuses on people who work in a business context generally rather than focus on people who hold particular roles. Keeping in mind the aims of the broader study to examine the virtues of people working in business and that there has been no published work that attempts to validate the VES, work was undertaken to validate the VES. It is the results of that work on which this paper reports.

The Development of the Virtue Ethics Scale

Drawing on Dobson's (1997b) interpretation of MacIntyre's (1985) work, Shanahan and Hyman (2003) see virtue as an approach that asks individuals to aim for excellence based in communities. Rather than relying on rules or principles, virtues are developed by emulating role models and the character traits that drive good behaviour are developed over a person's lifetime.

In order to establish their measure Shanahan and Hyman (2003) needed to identify a list of appropriate virtues. Their literature review identified nearly fifty that had been applied to business, but they turned to Solomon's (1999) list of 45 virtues to underpin the measure. Solomon's (1992, 1999) project, based in an Aristotelian perspective on the virtues, is one of the few that examines the operation of a range of virtues in a business context and at that stage was the only example of a substantial list of IBVs.

Shanahan and Hyman (2003) validated the items by asking focus groups of business undergraduate and doctoral students to identify the preferred traits of a new employer, employee and an advertising agency when responding to business scenarios. They found evidence to support the use of all of the 45 virtues in Solomon's (1999) list. A pre-test of the questionnaire based on 102 student responses, 11 of which used verbal protocols, confirmed participant understanding of the items.

The main study was conducted with 455 business students and asked them to respond to a business scenario which related to the hiring of a new employee. The respondents were asked to rate to what extent they agreed that it was important for the new employee to hold the traits described using a 6 point Likert scale. Exploratory factor analysis resulted in six dimensions: 'empathy' ($\alpha = .94$), 'protestant work ethic' ($\alpha = .90$), 'piety' ($\alpha = .76$), 'reliability' ($\alpha = .73$), 'respect' ($\alpha = .72$) and 'incorruptibility' ($\alpha = .67$) based in 34 items. Comparison with categorisations of virtues in the business ethics literature (Murphy, 1999) lent face validity to the dimensions described.

Although the development of the measure was robust, its use is limited by its focus on student perceptions of desirable traits in potential employees, rather than relying on the

reporting of these traits by business people. Although it is useful to develop measures using student samples, it is important that the measure is validated using a sample that has experience of business and encountering ethical issues in that context if it is to be accepted as a valid measure of virtues in an organisational context. The original study also fails to establish convergent and divergent validity with associated concepts. It is with these issues in focus that this study set out to attempt to validate the VES.

Method

This section presents the three phase process adopted when validating the VES measure. The three phases are the 'examination of the items prior to measurement', 'confirmation of the measure's dimensions' and 'establishing convergent and divergent validity'.

Phase 1: Item analysis and redesign

In order to establish if the VES items were appropriate for the measurement of individual virtue with a sample of business people in a UK context, items were examined to ensure:

- that the use of language was appropriate for the UK
- the appropriateness of the language for people in a business context
- there was no inappropriate overlap in terms used between each item
- that item titles were seen to match with their descriptors by participant groups

This phase used a panel of 12 business academics working in the UK. All of the panel had experience of managing in businesses prior to entering academic careers. First, two of the panel examined each item to identify terms that would not be familiar to UK business people and where there was overlap in the language used between items. Where language was found to be inappropriate or there was overlap in the terms between items, items were rewritten by one of the academics and the second academic reviewed the rewritten items to ensure that the alternative was now in appropriate language and reflected the original item's meaning.

Second, when establishing match between items and descriptors the remaining 10 panel members were individually asked to match the item titles to the descriptors. Item titles were pinned to the left hand side of a board and the descriptors in a random order on the right. The individual was asked to pin the descriptor to the title that they felt it best described.

Phase 2: Confirmation of the measurement dimensions

In order to carry out validation of the VES with UK business people, a survey was conducted. The survey used the full 45 item measure after it had been adjusted for the pre measurement examination of items. In order to establish the level of individual virtue that exists, rather than preferences for individual virtue in others, respondents were asked how much each statement was true or false for them using a 5-point Likert scale from definitely true to definitely false. Typical items were: In my job I 'go above and beyond, show bravery', 'fulfil my obligations' and 'get things done without relying on others'. The survey provided data for factor analysis which aims to establish fit between the dimensions found by Shanahan and Hyman (2003) and the current sample.

During the summer of 2014 Human Resource Management professionals who were LinkedIn with a university in the South West region of the UK were contacted to fill in a survey that included Shanahan and Hyman's (2003) measure as well as others that were of interest to the wider project. Respondents were contacted with a message that outlined the objectives of the project and a link to a Survey Monkey questionnaire. Using an electronic survey allowed participants who were geographically dispersed to be contacted easily. It also facilitated easy monitoring of responses and administration of reminder emails that were sent in line with Dillman et al.'s (2014) process for administering surveys.

Of the professionals 383 had graduated from the university between 1991 and 2013, the remaining 52 having connected with the university for a range of other reasons including being ex-employees or part of business networks run in collaboration with the university. Responses were received from 172 (40%) people who had been sent the request to fill in the survey. This compares well with response rates of other surveys with organisations that typically gain 35% (Baruch and Holtom, 2008). Of the respondents 35 omitted to fill in at least one significant section and were excluded from the analysis. This meant that the analysis was based on 137 participants and 32% of the potential respondents.

The majority of the respondents had worked for their organisations for between 2 and 9 years (72.3%), were working in the private services sector (55.5%), and were female (74.8%). Their roles ranged from HR administrator through to HR Director, with the largest group HR Business Partners representing 18.2% of the respondents. The characteristics of the sample are broadly representative of the UK's professional body for HR professionals, the CIPD.

Phase 3: Establishing Convergent and Divergent Validity

Confidence in the VES can also be strengthened by examining its association with other constructs that may be expected to drive ethical behaviour, what is known as its construct validity. It is argued that moral attentiveness (MA) (Reynolds, 2008) and the perceived role of ethics and social responsibility in supporting the effectiveness of business (PRESOR) (Singhapakdi et al.,1995) are two measures that would be expected to correlate with VES scores and demonstrate convergent and divergent validity. It is to these issues that the paper now turns to.

Given the origins of the VES, individuals who show high scores would also be expected to demonstrate a more ethical approach both generally and in business. In this section it is argued that holding IBV should be positively associated with moral attentiveness and perceptions of the importance of ethics and social responsibility in promoting organisational effectiveness. In underpinning the methodology adopted to validate the VES measure it is important to provide a theoretical justification for there being associations between IBV and MA, and IBV and PRESOR.

Moral Attentiveness

Reynolds (2008) works from the perspective of social cognitive theory and argues that ethical behaviour is driven by a combination of individual characteristics and external influences. From this perspective, he argues for Moral Attentiveness as a predictor of ethical behaviour. Drawing on Fiske and Taylor's (1991) work, he argues that accessibility and how easily

ethical stimuli fit with an individual's cognitive frameworks is central to the influence of ethical issues on their decision making. Where accessibility to ethical stimuli is deeply embedded it becomes automatic, more efficient, dominates cognition and, as a result, has greater influence on a person's decision making processes. In turn, Reynolds (2008) argues that moral attentiveness focuses us on the mechanisms through which people perceive their environment and how that determines the impact of ethical issues in their thinking.

Reynolds (2008) identifies two dimensions. First, the perceptual where a person interprets information in their environment immediately from an ethical perspective and, second, the reflective where people review their experiences deliberately with reference to their ethical frameworks. In his view, both attention to moral issues in the perceptual and reflective modes should lead a person to display more positive ethical behaviours.

Individuals who demonstrate higher levels of IBV would be expected to, also, demonstrate higher levels of moral attentiveness. People who hold individual business virtues will be aware of their requirements. The caring business person will – through the very process of caring – have an understanding of the requirements of caring that someone who is not caring is much less likely to comprehend. Moreover, because caring becomes embedded in their thinking and decision making, that individual is going to become more attentive to issues of caring in their context and the decisions they face. They would be expected to be both more perceptive of moral issues related to caring in the day to day situations they face, but also consciously reflect on those issues more than those who do not hold the virtue of caring. As a result they go hand in hand and any measure of IBV would be expected to be associated with higher levels of Reynolds' (2008) MA and be evidence of convergent validity.

Reynolds' (2008) 12 item measure of moral attentiveness was used. The 12 items were rated by an expert panel as representing the concept of MA. Testing of the measure using a sample of 123 management students based in the USA resulted in a two factor solution with 'perceptual moral attentiveness' ($\alpha = .87$) being represented by seven items and 'reflective moral attentiveness' ($\alpha = .84$) by five. Perceptual moral attentiveness focuses on people's immediate responses to situations which they perceive to be ethical. Reflective moral attentiveness focuses peoples' reflections on ethical issues.

Subsequent studies have shown high alpha validity with Wurthmann (2013) replicating the factor structure with similarly sound reliability (Perceptual Moral Attentiveness $\alpha = .82$ and Reflective Moral Attentiveness $\alpha = .76$) with US based undergraduate students and Whitaker and Goodwin (2013) reporting $\alpha = .89$.with US based adults. The current study confirmed the results of previous studies producing a two factor solution (Perceptual Moral Attentiveness $\alpha = .84$ and Reflective Moral Attentiveness $\alpha = .79$). Higher reported scores for IBV dimensions would be expected to be positively associated with both MA dimensions.

Perceived Role for Ethics in Business

Singhapakdi et al. (1995) focus on the perceived importance of ethics and social responsibility in creating organisational effectiveness as a driver of ethical behaviour. They argue that the perception that ethics and social responsibility are important to organisational effectiveness will significantly increase the chances that an individual will act ethically. "This is a pragmatic view based on an argument that managers must first perceive ethics and

social responsibility to be vital to organizational effectiveness before their behaviours will become more ethical and reflect greater social responsibility" (Singhapakdi et al., 2001: 134).

In turn, a person who has come to the view that ethics and social responsibility are not just socially desirable, but also important to the long-term performance and survival of their business will make them central to their decision making (Singhapakdi et al., 1996). Studies that examine the perceived importance of ethics and social responsibility suggest that they are important to the process people follow when translating experiences of their environment into behaviour, and evaluation of the impact of that behaviour for individuals and organisations (e.g. Valentine and Fleischman, 2008; Singhapakdi and Vitell, 2007).

Individuals who show higher levels of IBV would also be expected to perceive a significant role for ethics and social responsibility in promoting organisational effectiveness. Holding virtue is not something that can be switched on and off depending on context. Where a person holds a virtue it is embedded in to the way they act across all areas of their life (Dawson and Bartholomew, 2003). In turn, they would be expected to appreciate the benefits of virtue not just in their personal lives, but also in their business lives. That is, they will have experiences and understanding of how ethical behaviour through virtue can drive organisational effectiveness.

Singhapakdi et al.'s (1995) measure was adopted to measure PRESOR. Based on 16 items that place emphasis on either ethics and social responsibility or other facets of organisational effectiveness, the PRESOR measure drew upon Kraft and Jauch's (1992) Organisational Effectiveness Menu. Singhapakdi et al.'s (1995) study generated a three factor solution

(Good ethics is good business ($\alpha = .72$), Profits are not paramount ($\alpha = .69$) and Quality and communication ($\alpha = .60$)).

The 15 studies[2] that examine the factor structure of the PRESOR measure provide either two or three factor solutions. In each solution, a single dimension contains items that detract from ethics and social responsibility by focusing on other business priorities. The other dimensions place ethics and social responsibility as integral to business success. In this study, a three factor solution results from the analysis for PRESOR that reflects the results of previous studies (e.g. Axinn et al., 2004; Shafer et al., 2007; Wurthmann 2013). Stakeholder: Effectiveness ($\alpha = .79$) best describes the first factor and is comprised of items that focus on the importance of ethics to sustainable business performance. The second factor Stakeholder: Compatibility ($\alpha = .77$) contains items that focus on how ethics and social responsibility are compatible. The Stockholder ($\alpha = .64$) factor contains items that prioritise business objectives. Higher reported scores for IBV would be expected to be positively associated with the PRESOR stakeholder dimensions demonstrating convergent validity and negatively associated with the PRESOR Stockholder dimension demonstrating divergent validity.

Results

In this section the results of each of the three phases of investigation are reported.

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[2] The following studies each examine the factor structure of PRESOR: Axinn et al. (2004); Elias (2004); Etheredge (1999); Godos-Diez (2011); Groves and LaRocca (2011a+b); Kurpis et al. (2008); Park (2005); Promislo et al. (2012); Shafer et al. (2007); Singhapakdi et al. (1995); Singhapakdi et al. (1996); Singhapakdi et al. (2008); Vitell and Paolillo (2004); Vitell and Hidalgo (2006); Wurthmann (2013).

Phase 1: Item analysis and redesign

Examination of the VES items to ensure that they would be understood in the UK rather than the USA found that none of the terms were inappropriate in themselves for use in UK English, although spelling was changed appropriately. Only a limited number of changes were made because it was felt the terms were not appropriate for presentation to business people. For example, the term 'cosmically edified' used to describe spirit was deleted from the description as it was felt business people would not connect with the term. At this stage, items were also reworded to ensure that they were in the present tense and first person.

Inappropriate overlap of terms was found in the VES, with virtue titles used in the description of another item. For example, the descriptor for Integrity was 'Being one's true good self; being a model of trustworthiness'. The use of the word trustworthiness caused overlap because it was also used as a virtue title. Similarly, there were instances where more than one item descriptor used the same term in a way that caused overlap. For example, the term 'being admired by others' was used to describe both honour and pride. Where these conflicts were found the item descriptors were rewritten to ensure overlap was eliminated.

Matching of the items with the item descriptors by the 10 panel members revealed mixed results. Overall the participants matched 58% of the items to the descriptors with one participant matching over 80% with the lowest matching 33%. Nineteen of the items were matched by at least 7 of the participants including compassion, competitiveness, fairness, honesty and wittiness. Ten other items were matched by less than 4 of the participants, items including acceptance, determination, saintliness and zeal. Moreover, conversations with the panel identified that some of the item descriptions were overly long and caused confusion

because they could conceivably contain two concepts. Some respondents found some of the items difficult to relate to. For example, panel members questioned items including saintliness, spirit and zeal. In response to these findings items with longer descriptions and those that had performed poorly in the matching exercise were examined in an attempt to shorten and clarify descriptions. Items were not deleted because their status as virtues had been questioned by members of the panel as the comments were not consistent across the group.

Phase 2: Confirmation of the measure's dimensions

Confirmatory Factor Analysis (CFA) was used to examine the extent to which the 6 IBV dimensions in Shanahan and Hyman's (2003) study was reflected by data collected from the current sample. CFA was conducted using IBM SPSS AMOS software. Multiple fit indices were adopted with the following cut offs being used when assessing model fit with Chi square/ df (<3), P (>.05), CFI (>.95), GFI (>.95), AGFI (>.80), RMSEA (<.05) and PCLOSE (>.05). The results show that the model tested is not a good fit for the data in this study (Table 2).

INSERT TABLE 2 ABOUT HERE

In order to identify the factor structure in the current data, Exploratory Factor Analysis (EFA) was carried out using the Principal Components method and Varimax rotation with Kaiser

normalization with $n=137$. Loadings of 0.5 were considered to represent statistical significance with a sample of this size (Comrey, 1973; Tabachnick and Fidell, 1996; Hair et al., 1998).

INSERT TABLE 3 ABOUT HERE

EFA for the VES measure resulted in a three factor solution based on 13 items. The three factors reflect items which together represent 'Reliability', 'Resourcefulness' and 'Leadership' (Table 3). People who are high on 'Reliability' act with integrity, honour, are articulate, cooperate with others, and show tolerance of others. A high score on 'Resourcefulness' indicates a person who is cool headed, determined and entrepreneurial when acting. Finally, people high on 'Leadership' display passion, style and saintliness.

Comparison of the three dimensions to those found by Shanahan and Hyman (2003) reveals that the dimensions show remarkably little similarity. Only one of the dimensions, Reliability, shares the same title. Closer examination of that dimension in the two studies shows that the majority of items are not shared, although they can be considered together to point to the same meaning. Indeed, examination for similarities in the items across each dimension across the two studies shows very limited sharing of items. It is clear that fundamentally different factor structures have been found with a UK sample of working HR practitioners than was found with US business students.

In addition, that more than 70% of the items were discarded from the solution is unusual, breaking the 25 – 50% threshold that would be expected (Velicer and Favor, 1998). This suggests that a majority of the items (virtues) included in the measure act independently of each other. This would be unusual where the virtues would be expected to be integrated by the individual who holds them and lead to coherent action. So, the results show that this study has not been able to replicate the factor structures found by Shanahan and Hyman (2003) and also suggest that many of the items may work independently to one another contrary to the expectations of theory.

Phase 3: Establishing Convergent and Divergent Validity

The descriptive statistics (Table 4) display an acceptable range of values where a five point Likert scale has been used. The means of the IBV dimensions are each above the mid-point of the scale with respondents reporting higher scores for IBV Reliability (*M*=1.64) and IBV Resourcefulness (*M*=1.86) over IBV Leadership (*M*=2.20). In line with Reynolds' (2008) results, MA Perceptual Moral Attentiveness (*M*=2.92) and MA Reflective Moral Attentiveness (*M*=2.27) show means above the mid-point of the scale. The means for the PRESOR dimensions show that respondents prefer PRESOR Stakeholder: Compatibility (*M* = 1.73) and PRESOR Stakeholder: Effectiveness (*M* = 2.41) over the PRESOR Stockholder (*M* = 3.80) dimension. This reflects the results of studies carried out by Axinn et al. (2004), Shafer et al. (2007) and Wurthmann (2013). Examination of the Pearson correlation coefficients for multicollinearity between the dimensions fails to raise any concerns.

INSERT TABLE 4 ABOUT HERE

Associations between IBV and the MA dimensions are addressed by multiple regression with MA Perceptual Moral Attentiveness and MA Reflective Moral Attentiveness as dependent variables (Table 5).   Only IBV Leadership provides significant associations with MA Perceptual Moral Attentiveness ($p< .05$) and MA Reflective Moral Attentiveness ($p< .05$). Indeed, in general there is little support for convergence between IBV and MA.

INSERT TABLE 5 ABOUT HERE

The multiple regression with the PRESOR Stakeholder: Effectiveness, PRESOR Stakeholder: Compatibility and PRESOR Stockholder dimensions as dependent variables are shown in Table 6. The results show that IBV Leadership is positively associated with PRESOR Stakeholder: Effectiveness ($p< .005$) and PRESOR Stakeholder: Compatibility ($p< .05$). The results also show that IBV Reliability is negatively associated with the PRESOR Stockholder dimension ($p< .05$). Whilst these associations are interesting, there is only limited evidence of association between IBV dimensions and PRESOR dimensions and little support for convergence or divergence between the measures as expected across the dimensions.

INSERT TABLE 6 ABOUT HERE

Discussion

The results raise several concerns about the VES. These concerns focus on the theoretical grounding and structures used to underpin the measure, the specification of the measure's relationships with other constructs, and the selection and specification of the items when constructing the measure. This section will examine each of these concerns in turn.

First, in phase two of the validation process, factor analysis resulted in three dimensions based in 13 items. Thirty-two of the measure's items were disregarded, either because they did not load sufficiently to their factor or because they formed factors of only one or two items. This suggests a fragmentation of the virtues included in the measure so that they act independently of one another. As already mentioned this would go against theories of virtue which suggest that individuals integrate their virtues in order to work towards the good in a cohesive manner and brings in to question the grounding of the items in the measure.

Closer examination of the measure items shows that by relying on Solomon's (1999) work Shanahan and Hyman (2003) have included an inventory of potential business virtues. There is no theoretically grounded justification for the inclusion for each virtue and no conceptualisation of how the virtues relate to one another. For example, how groups of virtues would be expected to complement each other and whether they operate as part of a hierarchy is left unclear. These questions need to be addressed when developing a measure of individual virtue for business people to ensure it is theoretically coherent, taking the lead and building on the work of Libby and Thorne (2004) and Barker and Coy (2003). As a minimum threshold, categories of virtue should be developed, with criteria for the admittance

of individual business virtues, and a clear specification of how virtues in that category would be expected to act. That is, the framework of virtues underpinning the measure needs to be both structured and theoretically grounded.

Second, Phase 3 of the validation process finds only very limited evidence to support the association of the IBV dimensions and MA and PRESOR, two measures with which they would be expected to show relationships. That this is the case may be because the dimensions derived from the measure are theoretically incoherent as already discussed. However, it may also point to another issue. Whilst IBV generally and MA and PRESOR would be expected to be related, this may not hold for all groups of virtues.

For example, on what basis can it be argued that the items under IBV Resourcefulness would be expected to lead to greater MA? Whilst '[making] decisions for myself – have a personal identity' (*Autonomy*) and '[retaining] control and reasonableness in heated situations' (*Cool headedness*) might be expected to help a person take an independent, clear view of situations and may provide space for perception of and reflection on ethical issues, it is far from clear how '[seeing] difficult activities through' (*Determination*) and '[taking] risks by being the first to implement new ideas, products or services' (*Entrepreneurship*) would. It is clear that better specification of the expected links between IBV dimensions and related constructs needs to be provided. Again, this needs to occur during the construction of the measure where the relationship between categories of individual virtues and other constructs needs to be made explicit and play a part in item selection.

Finally, in the first phase of the validation process there was evidence that business people may not relate to all of the virtue items presented in the measure. Whilst this finding may

result from panel members' lack of understanding of particular virtues, it also raises the possibility that some of the items are not relevant to the current context. Whilst Solomon (1999) adapts an Aristotelian approach to ethics to 20th Century business, he provides no evidence that the virtues in his inventory are actually relevant in modern day business and would be accepted as virtues by people in general. Indeed, without engaging with business people it cannot be clear to what extent the list includes or excludes the virtues and vices that they act through.

These points suggest that the inclusion of items in measures of IBV, whilst being grounded in appropriate theoretical frameworks, need to be developed empirically. That is, empirical work needs to take place to establish what will count as a virtue item and through which language to describe that item. Moore (2012a) and Fernando and Moore (2015) both point to categories of organisational virtues that are grounded in both theory and empirical work. Whetstone (2003) provides example of how virtue language displays itself in a business context. It is these and other studies like them that provide a template for the justification for inclusion and specification of virtue items.

So, rather than validate the VES, this study has raised significant concerns. These concerns are significant in scope and as such would suggest that the VES does not provide a sound basis for the study of IBV. It may be possible to revisit the measure's development, but this would be a significant undertaking. It would require a re-evaluation of Solomon's (1999) inventory of virtues in the context of a theoretically grounded categorisation of the virtues. Even then it would require validation of the virtues with business people and Whetstone's (2003) work suggests that only a small number of those in the list would be confirmed.

Indeed, together these points suggest that the VES should be abandoned and work should commence to develop better-grounded measures for identifying the virtues of people who work in a wide range of business roles.

Conclusions

This paper is the first attempt to validate Shanahan and Hyman's (2003) virtue ethics scale. It does this through a three phase process that examines the items included in the measure, the measure's dimensions, and the convergent and divergent validity with other measures of ethical business practice, and utilises a sample of UK based business people. It fails to validate the measure, being unable to replicate the dimensions found by Shanahan and Hyman (2003), finding only very limited evidence of convergence or divergence as expected with related constructs, and bringing in to question the basis on which items were selected for inclusion in the measure. The extent of these deficiencies suggests that the VES should not be used to examine individual virtue of business people. It also suggests that it will be better to develop new measures rather than attempt to redevelop the VES.

This study indicates four issues that need to be taken in to account when developing a measure of IBV. First, it suggests that the measure needs to be grounded in theory, a position that is supported by Bright et al. (2014). Any measure of IBV needs to refer to appropriate theory and that theory needs to provide enough detail to guide the structure of the virtues so that any hierarchy and categories are clear. Second, the development of a measure needs to pay due regard to links to related constructs, and be clear on how different groups of virtues would be expected to interact with them. This should go as far as determining which items are included and discarded in the measure.

Third, the development of a measure needs to take steps to generate items that are appropriate to context. That means work needs to take place to ensure that items should be relevant to the 21st Century and will be understood by people working in business. In practice, this means that business people rather than the literature on virtues will need to take priority in the generation of the measure's items. Finally, the measure's items need to use language that will be understood by respondents. In the context of this study, that means using the language of business people to describe virtue items.

In making these recommendations, the limitations of the current study are recognised. In particular, the choice of variables used to examine convergent and divergent validity were determined by the needs of the wider study of which this work was one part. Release from those constraints means that future studies should consider the examination of additional variables and newly published measures for that purpose. It is also clear that whilst this study has the benefit that it uses working people as its sample, its concentration on HR practitioners is a potential limitation. Future studies of IBV will benefit from using samples of people that hold a wider range of business roles.

In leading to these conclusions, this study has provided an evaluation of the most promising measure of IBV, the VES. Although it is disappointing that the study did not support further use of the VES, examination of that measure's deficiencies has enabled clear guidelines for the future development of a measure for IBV to be established.

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Table 1: Measures of Virtue in Business

Level of analysis	Authors	Measure	Sample
Organisation	Cameron et al., 2004	Organisational Virtue Instrument	Location: Midwest USA Respondents: Employees of 18 organisations from a range of sectors Sample size: 804
Organisation	Cameron et al., 2011	Positive Practices Survey	Location: Northeast USA Respondents: Employees of financial services organisation / nursing units Sample size: 1989 / 442
Organisation	Chun, 2005	Virtue Ethical Character Scale (VECS)	Location: UK Respondents: Staff and customers of 7 firms Sample size: 2548
Organisation	Kaptein, 2008	Corporate Ethical Virtue scale (CEV)	Location: Holland Respondents: Employees of Dutch organisation Sample size: 312
Organisation	Moore, 2012a	Organisational Virtue Interview	Location: UK Respondents: Allianz Boots managers Sample size: 21
Team	Palanski et al., 2011	Team Transparency, Behavioural Integrity & Trust	Location: Northeast USA Respondents: Nurses and Nurse managers Sample size: 83
Team	Rego et al., 2013	Team Virtuousness (adapted version of Camron et al 2004)	Location: Portugal Respondents: University employees Sample size: 222
Individual	Libby and Thorne, 2007	Measure of Auditors' Virtue	Location: Canada Respondents: Members of the Canadian Institute of Chartered Accountants Sample size: 376
Individual	Riggio et al., 2010	Leadership Virtues Questionnaire	Location: USA Respondents: Managers Sample size: 200
Individual	Sarros et al., 2006	Virtuous Leadership Scale	Location: Australia Respondents: Australian Institute of Management members Sample size: 238
Individual	Seijts et al., 2015	Measure of Leader Character Dimensions	Location: Canada & USA Respondents: Leaders of Multidivisional Conglomerate Organisation Sample size: 364
Individual	Shanahan and Hyman, 2003	Virtue Ethics Scale	Location: Southwest USA Respondents: Business Students Sample size: 445
Individual	Thun and Kelloway, 2011	Character Strengths Leadership Survey	Location: Atlantic Canada Respondents: University employees Sample size: 327
Individual	Wang and Hackett, 2016	Virtuous Leadership Questionnaire (VLQ)	Location: North America Respondents: MBA students Sample size: 193

Table 2: Confirmatory factor analysis results

Variable Modelled	Chi square/ df	P	CFI	GFI	AGFI	RMSEA	PCLOSE
Individual Business Virtue (VES – Shanahan and Hyman 2003)	1.408	.000	.789	.780	.744	.055	.199

Table 3: Individual Business Virtue items and factor analysis results

Items	Virtue	Factor Loading
Factor 1 – Reliability (α = .762)		
Deal with people in a way that is right	*Justice*	.646
Act in line with my principles – am true to one's self	*Integrity*	.628
Act correctly and hold my head high	*Honour*	.609
Get along – work through reciprocity	*Tolerance*	.566
Get things done through working with others	*Cooperativeness*	.562
Make my case by expressing myself clearly	*Articulateness*	.510
Factor 2 – Resourcefulness (α = .666)		
Make decisions for myself – have a personal identity	*Autonomy*	.702
Retain control and reasonableness in heated situations	*Cool headedness*	.661
See difficult activities through, am resolute	*Determination*	.607
Take risks by being the first to implement new ideas, products or services	*Entrepreneurship*	.563
Factor 3 – Leadership (α = .639)		
Am interesting, elegant, charming	*Style*	.721
Have an infectious and inspiring enthusiasm about my work	*Passion*	.716
Approach the ideal – behave extraordinarily	*Saintliness*	.574

Table 4: Descriptive statistics and Pearson correlation coefficients (N=137)

	Mean	SD	1	2	3	4	5	6	7
1. IBV Reliability	1.64	0.42							
2. IBV Resourcefulness	1.86	0.50	0.464						
3. IBV Leadership	2.20	0.59	0.376	0.288					
4. MA Perceptual Moral Attentiveness	2.92	0.79	0.067	0.118	0.195				
5. MA Reflective Moral Attentiveness	2.27	0.74	0.273	0.171	0.296	0.567			
6. PRESOR Stakeholder: Effectiveness	2.41	0.71	-0.003	-0.090	0.220	0.215	0.366		
7. PRESOR Stakeholder: Compatibility	1.73	0.47	0.111	0.125	0.243	0.166	0.283	0.495	
8. PRESOR Stockholder	3.80	0.72	-0.282	-0.242	-0.171	0.020	-0.229	-0.372	-0.450

Table 5: Multiple regression analysis of the MA dimensions

Variables	β	*T* value	Significance of *T*
MA Perceptual Moral Attentiveness			
IBV Reliability	-0.042	-0.416	.678
IBV Resourcefulness	0.083	0.861	.391
IBV Leadership	0.186	2.015	.046*
Adjusted R2 = 0.022, F = 2.004, significance of F = 0.116			
MA Reflective Moral Attentiveness			
IBV Reliability	0.178	1.856	.066
IBV Resourcefulness	0.024	0.262	.794
IBV Leadership	0.222	2.499	.014*
Adjusted R2 = 0.098, F = 5.945, significance of F = 0.001			

* = *p*<.05, **= *p*<.005

Table 6: Multiple regression analysis of the PRESOR dimensions

Variables	β	*T* value	Significance of *T*
Stakeholder: Effectiveness			
IBV Reliability	-.036	-.366	.715
IBV Resourcefulness	-.153	-1.610	.110
IBV Leadership	.277	3.050	.003**
Adjusted R2 = 0.054, F = 3.579, significance of F = 0.016			
Stakeholder: Compatibility			
IBV Reliability	-.002	-.023	.982
IBV Resourcefulness	.061	.639	.524
IBV Leadership	.226	2.470	.015*
Adjusted R2 = 0.041, F = 2.945, significance of F = 0.035			
Stockholder			
IBV Reliability	-.198	-2.041	.043*
IBV Resourcefulness	-.134	-1.425	.157
IBV Leadership	-.058	-.650	.517
Adjusted R2 = 0.078, F = 4.827, significance of F = 0.003			

* = *p*<.05, **= *p*<.005