

School of Psychology and Speech Pathology

**Clarifying the Relationship Between Culture and Values and Their
Impact on Workplace Satisfaction**

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**This thesis is presented for the Degree of
Doctor of Philosophy
of
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Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Signed:

Date:

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Abstract

My research examines the measurement and properties of values and culture, specifically the integration of Finegan's (2000) four factor values model with Cameron and Quinn's (1999, 2006) Competing Values Framework (CVF). The aim of my research was to reduce the blurring between the constructs of values and culture which has led to ambiguities in both measurement and understanding, such that that the measurement of culture has become highly values-centric.

Three hundred and twenty nine participants from Australian local government and private healthcare organizations were surveyed using a cross-sectional design with measures based on Cameron & Quinn's (1999,2006) Organizational Culture Assessment Instrument and Finegan's (2000) four factor values constructs, as well as measures of job satisfaction, organizational commitment and turnover intention. Examination of the differences and similarities between values predictors and holistic culture predictors with regards to a generalised measure of workplace outcomes (job satisfaction, organizational commitment, turnover intention) was conducted. Methodological comparisons between traditional hierarchical multiple regression analyses and multilevel modelling were conducted as part of this examination, to account for intra-organizational differences in workplace outcomes.

Validation of the four factors of culture represented in the Organizational Culture Assessment Instrument (Cameron & Quinn, 1999; 2006) was broadly achieved for both individual and perceived organizational preferences data. Both individual and perceived organizational culture preferences significantly predicted organizational outcomes. Validation of the four factors of values based on Finegan's (2000) constructs was achieved, although solutions for individual preferences and perceived organizational preferences differed. Again, both individual and perceived organizational values preferences predicted organizational outcomes, as expected. Culture preferences, after accounting for values preferences, significantly predicted organizational outcomes for both individual preferences and perceived organizational preferences data. Perceived organizational preferences were considerably more representative of the variability in workplace outcomes in all analyses. Congruence testing using Edwards' (1994) methodology revealed congruence effects between Humanitarian values / Clan culture and Adherence to Convention values / Hierarchy culture preferences, reinforcing Schneider's (1987) Attraction-Selection-Attrition model predictions.

While values and culture are entwined in the literature, my results demonstrated that values-centric explanation of organizational outcomes could not explain as much

variability in organizational outcomes as a holistic interpretation of culture. As pointed out by Hofstede et al. (1990; 1998) previously, organizational practices add to the explanatory value of organizational culture. Accounting for intra-organizational differences in predicting organizational outcomes was also identified as important. Differences in specified models for values are possibly indicative of perceptual differences of values when applied to the self compared to values applied to the organization, which may warrant different measurement scales depending on how values are being applied. Congruence between Finegan's (2000) values factors and Cameron and Quinn's (1999; 2006) culture factors was noted, but it was not present between all values/factor pairings as originally predicted. A significant proportion of the variability in organizational outcomes could be explained by perceptions of organizational preferences alone. The results of the thesis indicate the importance of the management of employee perceptions of organization culture (including values) for employee wellbeing.

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CHAPTER 1: INTRODUCTION

In 2009 and 2010 the suicides of employees from Foxconn caught international attention, after they appeared to be linked to harsh working conditions and oppressive workplace practices (The Economist, 2010). By May 2010, eight employees had committed suicide that year, with approximately another 30 more employee suicides prevented during April 2010 alone (Moore, 2010). Workers at the Foxconn factories were working 15 hour shifts every day of the week, and their work consisted of the repetitive fitting and construction of electronic components used in consumer devices by organizations such as Apple, Nintendo, and Sony (Moore, 2010; The Economist, 2010). Workers were commonly involved in violating China's overtime agreements, working more than the 36 hours per month of overtime permitted by law (The Economist, 2010). Interviewed workers elaborated on how they were trying to improve their financial position by working hard at the Foxconn factories, but due to the lack of networking and possibilities for advancement, they felt isolated and despondent (Moore, 2010). In 2009 Sun Danyong, an employee of Foxconn, allegedly committed suicide after being pressured by the organization's security division over the loss of an iPhone4 prototype (Barboza, 2009). During an interview with Sun's family, the reporter's translator was threatened with violence by a security officer flanked by two Foxconn employees if they did not cease asking questions (Barboza, 2009). While Foxconn attempted to halt the rate of employee suicides by introducing counselling and spiritual help, the factories were allegedly ringed with suicide netting (The Economist, 2010). The Economist (2010) also reported that Foxconn considered asking employees to sign a pledge that they would not commit suicide while in their employment. High employee turnover was commonplace at Foxconn, with 30-40% of employees leaving the organization annually to be replaced by migrant workers (The Economist, 2010).

The link between the manner in which an organization conducts its business and the outcomes that may occur at the organization, saliently presented in the extreme case of Foxconn and its spate of employee suicides (Moore, 2010; The Economist, 2010), is important to acknowledge. Organisational psychology may therefore be of value in further understanding the link between what an organisation represents and what occurs in the workplace. The broad term applied to the way in which an organization conducts itself, the values it embodies, and the attitudes it represents, is referred to as organizational culture (Schein, 1990). In the instance of Foxconn, it appeared that the consumer electronics manufacturer had a culture that was detrimental to employee wellbeing and workplace satisfaction.

My study seeks to validate measures of culture and values, and then use them to examine the way in which culture/values influence employee satisfaction in beneficial or detrimental manners. The influence of culture and values' effects on the organization are complex, however, and will be discussed in an approach that is both theoretically multifaceted and mindful of methodological considerations.

In the following chapters, the manner in which organizational culture and organizational values influence workplace satisfaction will be presented. Following this first introductory chapter, I will present multiple conceptualizations of culture that have been presented in the literature. A review of the methods in which culture is measured, followed by a presentation of the links between culture and workplace outcomes, will then be reviewed. Following the review of organisational culture, the conceptualization of values will be addressed, followed by a presentation of the links between values preferences and organizational outcomes. Values congruence and its relation to organisational outcomes, due to its representation of the majority of values-based research, is also discussed within this section of the literature review. The final sections of the literature review will focus on the methodological considerations pertinent to the measurement of values congruence. Lastly, the literature review will discuss the manner in which values and culture may have a definitional blurring, and the effect of this blurring on predicting workplace outcomes. In summary, the literature review is important in that it will provide a detailed overview of the breadth of values and culture, two interlinked constructs. The strengths and weaknesses of the constructs and their measurement, in terms of organisational psychology's means of understanding the relationship between the workplace and its outcomes, are then addressed as part of my study's research aims.

Following the literature review, the rationale and methodology is presented to justify the areas being investigated by my study. As the literature review will highlight several areas requiring further examination, these will be built upon during the rationale to provide direction for my study's analytic goals. The rationale and methodology will outline the need for validation of culture and values measurement tools, in addition to the examination of the links between workplace satisfaction and the factors represented by each measurement tool. The need for further scrutiny regarding the influence of congruence between values and culture, and the influence congruence has on workplace satisfaction, will additionally be examined as part of the rationale. Assessment of the degree of overlap between values and culture conceptualizations, and the implications this has on outcome measurement in organizational psychology, is also justified and examined. Following the presented rationale and measurement information, the resultant analyses

and the discussion of the results with regards to the content covered in the literature review will be addressed in the final parts of the thesis.

As presented in the extreme yet pertinent Foxconn example, the manner in which an organization conducts itself in accordance to its culture and values appears to be an important predictor of how employees function within the organization. While the specific issues occurring at Foxconn are not the focus of this study, the example represents the interplay between organisational culture, values, and workplace outcomes that are of importance to my research. Further clarity and understanding regarding the relationships and conceptualisations of these constructs, as a means of improving the effectiveness of an organisational psychology approach to explaining their interrelatedness, therefore forms the basis of my study.

CHAPTER 2: ORGANIZATIONAL CULTURE

In the literature discussing organizational culture there is a degree of overlap among several conceptualizations of the construct (Lewis, 1996; Lim, 1995). The majority of authors that investigate organizational culture agree that it is a pervasive aspect of an organization's functioning, and as a result it has a measure of influence in altering organizational outcomes (e.g., Hofstede, 1998; Hofstede, Neuijen, Ohayv, & Sanders, 1990; Schein, 1990). Consequently organizational culture has been identified by practitioners as a promising means of improving workplace outcomes (Ogbonna & Wilkinson, 2003; Smith, 2003). Before discussing the manner through which organizational culture influences workplace outcomes, a discussion is presented of how the construct has been examined in the literature. Beginning with a discussion of Schein's (1990, 1993, 1996) conceptualization of culture, other common conceptualizations of culture are then presented to provide a general overview of the construct. These conceptualisations present the basis of discussing the tools associated with culture measurement, which are then outlined in the following section. Cameron and Quinn's (1999, 2006) Competing Values Framework is outlined as a theoretically interesting and multifaceted approach to culture measurement in this section, providing the measurement and conceptual basis of predictions regarding the interrelationships between culture and workplace outcomes. This chapter concludes with an overview of the relationships between aspects of organizational culture and workplace outcomes that have been addressed in the literature previously, summarising the multifaceted influence of culture on an organization's wellbeing and functioning. Therefore, this chapter will present an overview of the theoretical and measurement conceptualisations of organisational culture, before outlining the relationships between culture and workplace outcomes. This chapter will provide the basis of later objectives and hypotheses addressed in the study rationale regarding specific relationship predictions between the constructs of culture, workplace outcomes, and the methodological considerations that may influence the assessment of these relationships.

2.1. Conceptualizations of Organizational Culture

2.1.1. Schein's Conceptualization of Culture. Schein (1990, 1993, 1996) proposed that culture manifests in an organization as a result of its shared history; the way the organization and its members have responded to events that have occurred in the

organization's history (e.g., an emerging threat to its market share) shape the organization's culture. While responses to external stimuli was a way of approaching the definition of culture, Schein also indicated that the manner in which the organization responded to achieving internal integration was similarly important. With regards to an overview of the process in which culture is formed, Schein presented the following oft-cited and arguably quite cohesive six part description of culture formation:

Culture can now be defined as (a) a pattern of basic assumptions, (b) invented, discovered, or developed by a given group, (c) as it learns to cope with its problems of external adaptation and internal integration, (d) that has worked well enough to be considered valid and, therefore (e) is to be taught to new members as the (f) correct way to perceive, think, and feel in relation to those problems. (Schein, 1990, p. 111)

Schein (1990) indicated that culture appears to have an integrationist aspect to it. While Schein acknowledged that subcultures may exist within the organizational culture, he believed that there was an inevitability that an overall organizational culture would exist within the organization due to the shared experiences that have created the culture. Culture forms a method of responding to stimuli that, as Schein pointed out, reduces the anxiety held by organizational members when confronted with a problematic situation. As the organizational culture provides a framework to address the problems that emerge, employees understand the 'correct' way to approach problems, which creates a reduction in confusion as a by-product of this process. In summary, Schein believes that culture is the result of the shared experiences of the organization's employees in terms of how they have dealt with shared experiences in the organization's history.

Schein (1990) conceptualized culture as a series of layers representing culture as a whole. The outermost and most readily observable of Schein's 'onion-layer' (Groseschl & Doherty, 2000) approach to culture is the artefacts layer (see Figure 1). The artefacts layer is concerned with the obvious aspects of the organization that physically represent culture. The architectural properties of the organization's building, the dress standards or uniforms that employees wear, and the icons, logos, and imagery associated with the organization are all examples from the artefacts layer of culture. Schein (1990) suggested that the artefacts layer is the most perceptible of the facets of culture due to the aforementioned physical representations of culture. Despite the layer's saliency, investigators of organizational culture outside of the organization are likely to have difficulty in ascertaining the antecedents of artefacts present in the organization. As artefacts are tied to underlying values and attitudes within the organization, an understanding of these deeper aspects of

culture were considered by Schein (1990) to be more difficult than the visually obtainable artefacts of culture.

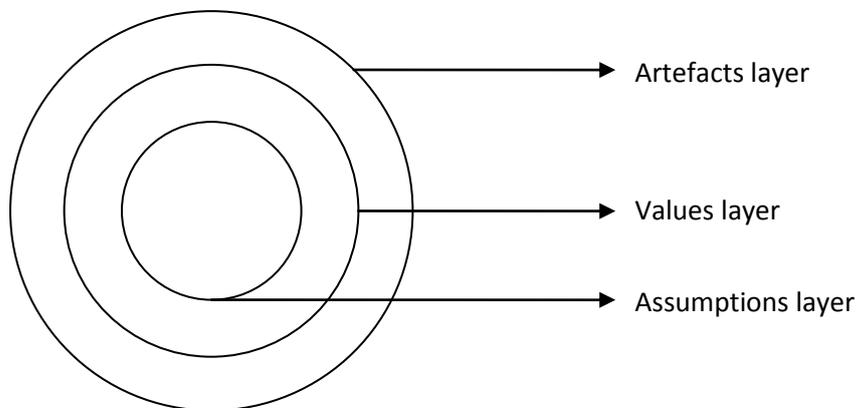


Figure 1. Visual representation of the layers of Schein's (1990) conceptualization of culture, by order of accessibility.

In descending level of accessibility, Schein's (1990) model placed values in a layer lower than artefacts. Values provide the basis for why the readily accessible artefacts of an organization's culture exist; artefacts are an extension of the organization's values. Schein believed that the burying of this layer beyond that of the readily observable made it difficult to assess the organization's values as they pertain to culture. To assess the values aspect of culture, Schein presented ethnographic interviewing and similar qualitative techniques as the most viable method of assessment, as he believed quantitative methods were less likely to capture values as adequately.

Lastly, the innermost layer of culture is attributable to the fundamental assumptions within the organization (Schein, 1990). Often this layer is 'taken for granted' by employees within the organization, which consequently makes it the most difficult layer to assess for the organizational psychologist. Schein (1990) believed that this layer can be understood only after intensive observation of the organization of focus. An example of an underlying assumption within an organization might be an assumption to stay out of the neighbourhoods/areas of competing employees within a real estate organization. In this instance it may be an underlying assumption that each neighbourhood or area an employee focuses on is their area to control, and any attempts to sell property within another agent's established area of operations would be an invasion of their territory. Schein (1990) suggested that conducive values and artefacts would therefore arise in accordance to this basic assumption within the organization, although these values and artefacts can vary from employees/groups/teams in fulfilment of this assumption.

In summary, Schein's (1990) onion-layer model of culture is a straightforward yet encompassing means of describing the manner by which culture manifests in the organization. To add balance to the discussion of frameworks of conceptualising culture, I will briefly discuss alternative perspectives on culture.

2.1.2. Hofstede's Processes-Based Conceptualization. An alternative to Schein's (1990, 1993, 1996) interpretation of culture is the process-based definition provided by Hofstede (1998). Hofstede described culture as something belonging distinctly to the organization (thereby being difficult to examine by outsiders), however it can be assessed by aggregation of the interpretations of culture across individuals within the organization. His conceptualisation of culture placed organizations at a point on each of four spectrums: uncertainty avoidance, power distance, masculine/feminine, and individualist/collectivist and long term-short term orientation.

Hofstede stated that organizational culture had an aspect of being affect-neutral, such that to the employees of the organization a culture was not necessarily positive or negative, it was just the manner in which the organization functions. Hofstede noted that both values and practices within the organization were fundamental components to differentiating organizational cultures. In a similar vein to that of Schein, Hofstede noted that the practices in the organization are the most readily observable aspect of its culture. Values, on the other hand, were less readily observable, but would differentiate differently between organizational cultures compared to differences in culture identified through observing practices. Within the same nation, Hofstede (1998) indicated that practices, rather than values, were often the key differentiating factor when comparing organizational cultures.

Where Hofstede's (1998) work differentiated from Schein (1990) was in the method of measuring culture. While Schein believed that ethnographic qualitative techniques were the main applicable method of culture assessment, Hofstede presented quantitative methodology as being just as valid. Hofstede argued that while quantitative methods could often be expanded upon using qualitatively derived data, quantitative data had merits due to its generality. As a result, generalisations beyond the current organization were more readily available in comparison to qualitative data). These points regarding the qualitative versus quantitative approaches to culture will be discussed in further detail in the later chapter focusing on measurement. To summarise, Hofstede's approach to culture was a more practices-oriented approach and one in which the conceptualization of culture was through a quantitative or hybridised approach, not from a purely ethnographic perspective. It should however be noted that Hofstede's approach to culture has thematic links to

Schein's theory, such that there are varying degrees of accessibility of the facets of culture to the academic or practitioner examining culture.

2.1.3. Archetypes of Integration. A broader conceptualization compared to that of Schein (1990) and Hofstede (1998) of the ways in which culture can manifest focused on the degree of integration that culture presented within an organization (Martin & Meyerson, 1988; Wilson, 2001). Martin and Meyerson discussed culture in terms of how integrated or ambiguously it was manifested within an organizational context. The framework presented by Martin and Meyerson included culture and culture theories in terms of three archetypes.

The first archetype, the integration perspective on cultural theories, suggested that culture can be a homogenous aspect across the organization. In being homogenous, organizational culture was considered to be largely the same throughout all levels of the organization. For example, Martin and Meyerson (1988) discussed how an organization that treated its employees in a largely egalitarian manner - all levels of employees eating in the same cafeteria and having open offices - might represent an integration culture. Looking at Google's (2010) corporate website regarding its culture (<http://www.google.com/corporate/culture.html>), a similar situation of shared areas of work and a consistently creative approach to office design and layout would suggest a form of integrative culture across the organization. Wilson (2001) noted that Schein's (1990) conceptualization of culture would largely fit within this perspective of culture and cultural theories. Recall that Schein stated that, while culture can exist in subcultures, there must be some degree of overarching or integrative culture that permeates the organization, due to the shared history of the employees working there. Therefore an integration culture was one wherein there appeared to be a general, organization-wide culture that influences the way in which the organization functions.

The second archetype of culture theory is referred to as differentiation. Differentiation varied from the homogenous conceptualization of culture espoused by the integration perspective, in that it somewhat represents the 'cracks in the system' of a unified organizational culture. Martin and Meyerson (1988) provided an example in which an organization might espouse egalitarianism yet employees may refer to specific in-groups within the organization, such as the 'higher-ups'. Common hyperbolic descriptions of sectors and employees within an organization, such as the 'eggheads in R&D' or the 'drones in accounting' are other examples of this kind of differentiation. Both indicate a subculture split from the main organizational culture. This deviates slightly from the previously covered description by Schein (1990), which was much more integration-oriented. It was

however applicable within Hofstede's (1998) conceptualization of culture, which implies that subcultures can exist across divisions of the same organization.

The third archetype, ambiguity, can be conceptualized at the opposite extreme to integration. Ambiguity exists when the organization's culture is self contradictory or ambiguously defined. Martin and Meyerson (1988) did not describe this variant of culture as particularly benevolent or harmful. Instead, it was considered as the representation of a lack of cohesion within the organizational culture with regard to specific stimuli, such that employees do not have a set of assumptions or guidelines to follow. Task groups assembled to respond to a particular scenario or work on a specific project were most likely to have culture in its ambiguous form, such that their level of consensus was only apparent in the specific issue they are addressing. A contemporary example is perhaps represented by government task groups designed to examine the threat of global warming. Consensus within these groups does not appear to occur on multiple levels (i.e. on policy, legislation, and action), and action paralysis often occurs as predicted by Martin and Meyerson. Wilson (2001) points out how this conceptualization of culture does not mesh particularly well with Schein's (1990) definition, however Schein's points regarding a minimum of cultural consensus required for organizational functioning appears to be consistent with the latter example of action paralysis.

In summary, Martin and Meyerson consider culture in terms of how integration influences functioning of an organization. As discussed in future chapters, allowing for variability in the mechanisms of organizational culture may be beneficial in elaborating on the type of culture present.

2.1.4. Additional Conceptualizations of Culture. Briefly, I will also discuss some additional conceptualizations of culture that complement those addressed previously. Lewis' (1996) review of the definitional changes in organizational culture described the way in which Sathe (1983) conceptualized culture as the competition between ideationalist and adaptationist ideas. The ideationalist perspective on culture revolved around an aspect of intangibility, specifically referring to shared meanings and assumptions among employee members. In contrast, the adaptationist perspective on culture focused on tangible aspects of culture such as the behaviours of organization members. Understandably, these two components of culture fall on a continuum, such that definitions of culture will vary in the emphasis applied to the ideationalist or adaptationist perspectives of culture. As described by Lewis, Schein's (1990) conceptualization of culture had a greater emphasis on the ideationalist components of culture as a major contributing factor. I would also argue that Hofstede's (1998) conceptualization of culture has more of an emphasis on the adaptationist

perspective of culture, given his preference for the practices of an organization being a prominent indicator of culture. In summary, Sathe's perspective on a continuum between tangibility and intangibility when describing the driving factors of culture was interesting when applied to the foci of culture developed by Schein and Hofstede.

Lim (1995) has also discussed the deviations in definitional derivations by Schein (1990) and Hofstede (1998) in terms of a process versus classification approach to culture. Note that Lim's use of the process method of describing culture is different to that inferred by Hofstede. Lim's method of describing Schein's conceptualization of culture as a process-based definition is due to the manner in which Schein described culture manifesting as a result of a process of employees sharing and responding to particular experiences. As described previously, the adaptive manner in which employees collectively responded to shared experiences within the history of organization formed the basis of culture. This was in contrast to Hofstede's conceptualization of culture, which was described by Lim as a classification approach to culture. As Hofstede's manner of addressing culture placed organizations within four spectrums (uncertainty avoidance, power distance, masculine/feminine, and individualist/collectivist) representing an organization's culture, this framework was described as a classification approach. The preference of quantitative methodology further complied with the classification approach to culture measurement according to Lim. Organizations were therefore classified based on where their 'profiles' fell in reference to Hofstede's pre-defined continua of various facets of culture. Lim's perspective was interesting in that it provided further discussion on the implied differences between the approaches to culture presented by both Schein and Hofstede.

2.1.5. Summary of Culture Conceptualization Overview. As discussed in the previous subsections regarding culture and its variations in definitions, culture can be approached in different manners. I have chosen to distil the discussion on the variations in definition on culture to two major and dominant conceptualizations within the literature; Schein's (1990) onion-layer approach to culture, and Hofstede's (1998) process-based approach to culture. To recapitulate, Schein's approach to culture has layered facets, wherein culture was developed by shared experience between employees that influence fundamental assumptions, values, and artefacts within the organization. Hofstede's approach to culture emphasises that the practices within an organization are important in determining how culture was defined, such that the key differentiating factor between organizations in the same nation was based on the differences in practices they employ. In line with the ideationalist perspective described by Sathe (1983), Schein focuses mainly on the intangible aspects of the organization (assumptions, values) being responsible for the

manifestations of culture within the organization. Alternatively, as described by Lim (1995), Hofstede's conceptualization of culture was more classification driven. This is due to the previously described conceptualisation of culture along four continua, such that the organization's culture could be classified based on how strongly it represented these stereotypical facets of organizational culture. These variations are summarised in Table 1.

Table 1.

Summary of Approaches to Culture Conceptualizations and Measurement of Schein (1990) and Hofstede (1998).

	Schein (1990)	Hofstede (1998)
General Overview	'Onion-layer' model, consisting of artefacts, values, and assumptions at the core	Layered model, emphasising processes being indicators of culture, fuelled by values
Measurement Preference	Qualitative	Quantitative
Sathe's (1983) Perspectives	Ideationalist. Emphasises culture as generally intangible.	Adaptionist. Processes visible in organization indicative of culture.
Lim's (1995) Perspectives	Process-Based. Culture based on responses to events encountered by the organization.	Classification Approach. Culture measurable based on certain continua.

While I have presented two seemingly differing conceptualizations of culture in the previously discussed areas, I do so to provide the reader with a mixed approach to culture that will be elaborated on in further chapters. As Jung et al. (2009) noted, attempting to definitively suggest one method of defining culture within the literature is somewhat of a fruitless objective. As the literature has attempted to prescribe various notions of organizational culture as superior to others, and after four decades of arguing on this front no clear consensus has been reached, this review has not entertained an approach such as this. Instead, the previously discussed perspectives on culture should be seen as a necessary backdrop to the discussion on the common tools employed by organizational psychologists in the measurement of organizational culture.

2.2. Measurement of Culture

2.2.1. Differences in Culture Measurement. Organizational culture is interesting in that it has a variety of approaches to its conceptualization. What this means in terms of the tools used to measure culture, however, is that attempts for clarity or consensus with regard to which tools are best suited in the measurement of culture are unfortunately quite muddled (Jung, et al., 2009). Jung et al.'s review of the tools used to measure culture documented over 100 different dimensions in the culture literature that are measured by various tools. To further complicate the possibilities of measuring culture, there are numerous quantitative measures of culture that appear to be only suited for niche circumstances. For example, Tepeci and Barlett's (2002) Hospitality Industry Culture Profile, and Braskamp and Maehr's (1985; as cited in Tzeng, Ketefian, & Redman, 2002)

Nurse Assessment Survey, are inventories that examine specific industries. The problem inherent with specificity in culture measurement is the lack of direct comparisons between organizations or industries outside of the domain specified by the measurement tool. Industry-specific measures are more suited to intra-industry comparisons across organizations.

Another issue with regards to the measurement of organizational culture is whether researchers should focus on qualitative or quantitative methodology. Jung et al. (2009) considered a mixed approach was most appropriate to describe culture in the most detailed manner possible. However there are strengths and weaknesses attributed to each methodological approach. Qualitative approaches are preferred by authors such as Schein (1990, 1993, 1996), who asserted that the driving force of culture cannot be skimmed off surface observations. Schein believed that qualitative interviewing was the most desirable approach to culture, due to the deeply held assumptions that are not salient even to employees unless probing of these assumptions was completed. Jung et al. described this form of culture measurement as largely 'formative', in that it assessed culture essentially for the purpose of understanding culture as deeply as possible. However, this manner of conceptualising culture has been criticised as offering little room for comparability across organizations (Lim, 1995). There is therefore an arguable difficulty associated with qualitative data, in that it is challenging to apply beyond the specific organization in which it was gathered.

Alternatively, quantitative methods are 'diagnostic' in nature. Due to the quantitative measure's prepared questions, they require less specialised training to deploy during data collection in comparison to qualitative methods (Jung, et al., 2009). The amount of time invested in completing a questionnaire to provide information on an organization's culture is also arguably far less than that required to attend (multiple) interview sessions to collect qualitative data (Jung, et al.). However, there are acknowledged weaknesses of the quantitative methods. The depth to which one can assess culture is limited by the framework already imposed within the measure, such that details outside of the net cast by a questionnaire would be unavailable to the researcher (de Hilal, 2006; Lim, 1995). Despite this shortcoming, I believe that the quantitative methods' advantages in terms of ease of deployment, comparability across organizations, and empirical validity outweigh the benefits of the qualitative methods of assessing culture for the purposes of this research, as will be expanded upon in the rationale. Consequently I will focus mainly on the quantitative options of assessing culture, which is aligned with Hofstede's (1998) interpretation of

culture measurement, to provide background regarding the popular tools available to measure culture.

To provide an approximation of the frequency of use of particular quantitative measures of organizational culture in recent psychology literature, I searched using the term 'Organizational Culture' in the PsycInfo academic database. Table 2 lists the culture measures and the studies in which they have been used between the years 2000 and 2010. Variants of Cameron and Quinn's (1999, 2006) Competing Values Framework, and O'Reilly, Chatman, and Caldwell's (1991) Organizational Culture Profile have been most frequently used, as was to a lesser extent, Wallach's (1983) Organizational Culture Index. I will provide an overview of each in the forthcoming section.

Table 2.

Frequencies of Quantitative Organizational Culture Measures Appearing in Organizational Psychology Research in the Past Decade.

Measure	Referring Articles
Bass & Avolio (1991, 1993) Organizational Descriptive Questionnaire, transactional vs transformative culture	Shivers-Blackwell, 2006; Toor & Ofori, 2009
Braskamp & Maehr's (1985) Nurse Assessment Survey	Tzeng, et al., 2002
Clugston et al.'s (2000) masculine culture scale	Jandeska & Kraimer, 2005
Competing Values Framework (Cameron & Quinn, 1999; Quinn, 1988; Quinn & Spreitzer, 1991; Zammutto & Krakower, 1991; Quinn & Rohrbaugh, 1981, 1983; Kalliath et al., 1999)	Brown & Dodd, 1998; Gardner, Reithel, Foley, Cogliser, & Walumbwa, 2009; Giberson et al., 2009; Gregory, Harris, Armenakis, & Shook, 2009; Hartmann et al., 2009; Kwan & Walker, 2004; Lamond, 2003; W. Li, Wang, Taylor, Shi, & He, 2008; Naor, Goldstein, Linderman, & Schroeder, 2008; Ngo & Loi, 2008; Ostroff, Shin, & Kinicki, 2005; Van Vianen, 2000; Wells, Thelen, & Ruark, 2007
Cooke & Lafferty's (1987; 1989) OCI	Balthazard, Cooke, & Potter, 2006; Gillett & Stenfert-Kroese, 2003; Xenikou & Simosi, 2006
Denison's (year) Organisational Culture Survey	Block, 2003
Glaser, Zamanou, & Hacker's (1987) Organizational Culture Survey	Sikorska-Simmons, 2005
Hargreaves (1995) school specific culture questionnaire	Dumay, 2009
Harrison's (1992) four factor model	Appelbaum et al., 2004
Hofstede (1990)	Campbell, 2004; de Hilal, 2006
Hofstede's Individualism Index (1999, 2001)	Leonard, 2008
Hunt's (1994) model	Mavondo & Farrell, 2003
Judge & Cable's (1997) individualism/collectivism scale	Parkes, Bochner, & Schneider, 2001
O'Reilly, Chapman & Caldwell's (1991) Organisational Culture Profile	Bellou, 2010; Beugelsdijk, Koen, & Noorderhaven, 2006, 2009; Burke, 2002; Cable, Aiman-Smith, Mulvey, & Edwards, 2000; Cooper-Thomas, Van Vianen, & Anderson, 2004; Jaskyte & Dressler, 2004, 2005; Jones, Jimmieson, & Griffiths, 2005; Lee & Yu, 2004; L. Li & Roloff, 2007; Randel & Earley, 2009
Pharmacy Service Orientation Questionnaire	Clark & Mount, 2006
Robbins (2001) seven factor model	Appelbaum, et al., 2004
Robert & Wasti (2002) collectivist culture scale	Jandeska & Kraimer, 2005
Tepeci & Barlett's (2002) Hospitality Industry Culture Profile	Tepeci & Bartlett, 2002
Triandis' individualism/collectivism scale	Kuhn, 2009
U.S. Office of Personnel Management's Organizational Assessment Survey (Muldrow, Buckley, & Schay, 2002)	Muldrow, Buckley, & Schay, 2002
Wallach's (1983, 1989) Organisational Culture Index	Berson, Oreg, & Dvir, 2008; Lok & Crawford, 1999, 2001; Taormina, 2008, 2009; Yiing, 2009

2.2.2. Wallach's (1983) Organizational Culture Index. Wallach's (1983)

Organizational Culture Index (OCI) indexed culture with reference to three constructs; Bureaucratic, Innovative, and Supportive culture. Like other quantitative measures of culture, organizations will fall within a continuum in terms of how strongly they reflect the construct of each form of culture. As such, organizational culture is measured as an amalgam of how well the organization reflected these three constructs. Based on Lim's (1995) perspectives of culture conceptualization, Wallach's (1983) method of measuring culture could be considered indicative of a classification approach to culture. Wallach's (1983) OCI is used to assess an organization's culture on the basis of its concordance with the three aforementioned culture constructs, conducive to the classification approach of culture measurement along a continua of representativeness. Echoing a further aspect of the classification approach to culture preference by Hofstede (1998) reviewed previously, the OCI uses a quantitative measurement approach.

Wallach (1983) described the Bureaucratic culture as one reflective of hierarchies and specification in responsibilities. Bureaucratic culture is rooted in control, such that the means of performing work is heavily prescribed, albeit very stable and predictable for employees. Organizations with a strong preference for this form of culture struggle to attract overly creative or innovative individuals, consistent with the person-organization fit suppositions of Schneider (1987; Schneider, et al., 1995) to be discussed later. Wallach described a monopoly-retaining national telephone provider as an example of a Bureaucratic organization, due to its insistence on efficient functioning but expressing a lack of creativity.

Secondly, Innovative Culture was typified by being dynamic in its functioning (Wallach, 1983). Work conducted within organizations strongly preferring the Innovative culture is challenging and creative, although taxing on its employees, with burnout a common difficulty. Google's (2010) previously described organizational culture is arguably reflective of Wallach's Innovative culture. The organization encourages the creation of new mobile applications by making application programming interfaces / development kits freely available, and frequently trials new methods of electronic social interaction (such as their Blast, Wave, and Voice tests) to provide alternative solutions to established methods such as Facebook and generic email (Google, 2011).

Lastly, Wallach's (1983) OCI allows examination of an organization's preference for Supportive Culture. Supportive culture is reflective of harmony, wherein work takes place within an 'extended family' environment. As the name suggests, organizations preferring this form of cultural archetype are supportive and encouraging of their employees.

McDonalds (2011) appear to represent Supportive Culture on the basis of the information presented in the careers section of their website, detailing their support of employee training for qualifications and skills that can further aid in their future establishment in other careers. Additionally McDonalds portrays employment within their restaurant chain to juveniles as another avenue of socialising with their friends (while working), further reflecting the supportive cultural aspects described previously via the social support present in the organization's framework.

In summary, Wallach's (1983) OCI provided an indication of organizational culture along the continua of Bureaucratic, Innovative, and Supportive culture. The OCI profiles organizational culture within the domain of the three previously described constructs, however the limitation of conceptualising culture along three stereotypes is one of descriptive depth (Lim, 1995). The OCI provides support for an expanded-upon examination of culture, due to its similar constructs and quantitative measurement methods, represented by the Organizational Culture Assessment Instrument [see 2.2.5.] (Cameron & Quinn, 1999, 2006). Before reviewing the arguably aligned Organizational Culture Assessment Instrument, I shall present O'Reilly, Chatman, and Caldwell's (1991) method of measuring culture.

2.2.3. O'Reilly, Chatman, and Caldwell's (1991) Organizational Culture Profile.

The Organizational Culture Profile [OCP] (O'Reilly, et al., 1991) was developed with person-organization fit comparisons in mind. The OCP has been frequently used to determine the degree of fit between individuals' culture preferences and their perceptions of organizational culture. Similarly to the OCI (Wallach, 1983), the OCP represents a classification approach to culture through its use of quantitative measurement techniques (Lim, 1995). O'Reilly et al. stated that shared values were indicative of culture, and the OCP was reflective of the degree of values-related fit between the individual and organization. The OCP is generally deployed using a Q-sort technique, such that employees sort a range of values statements into being poorly or highly reflective of their preferences or those of their organization. The sorting shape is reflective of a normal curve, such that the extreme poor or well fitting items are fewer in quantity than the moderately fitting items. This technique is not without its critics (i.e., Edwards, 1994, 1996; Edwards & Cable, 2009; Edwards & Cooper, 1990), and Hofstede (1998) has previously been critical about an overly values-centric approach to culture. Specifically Edwards has discussed the manner in which the Q-Sort methodology provides an inaccurate measure of culture congruence via difference scores, instead endorsing a polynomial regression technique to establish culture congruence. Regardless, the OCP examines culture preferences within the perspective of

seven factors; innovation, attention to detail, outcome orientation, aggressiveness, supportiveness, emphasis on rewards, team orientation, and decisiveness (O'Reilly, et al.). In a thematically similar yet more elaborate manner than that of Wallach's (1983) OCI, the OCP allows for employees' assessment of the importance of each factor. O'Reilly et al.'s measure of culture appears to be popular based on its ubiquity in Person-Organization (P-O) fit analyses, although its inferred synonymy between values congruence and culture congruence is an issue that will be addressed in later chapters.

2.2.5. Cameron and Quinn's (1999, 2006) Competing Values Framework. The Competing Values Framework [CVF] (Cameron & Quinn, 1999, 2006), despite the title, is not as values-centric as O'Reilly et al.'s (1991) OCP. Cameron and Quinn described the CVF as being representative of multiple aspects of culture, such as assumptions, approaches to work, and core values. The key aim of the CVF was to diagnose a culture profile for an organization as a prelude to organizational change. The measurement tool employed to perform this task in the organizational context was named the Organizational Culture Assessment Instrument [OCAI] (Cameron & Quinn). Similarly to the OCI (Wallach, 1983) and OCP (O'Reilly, et al., 1991), the CVF uses a classification approach to culture measurement (Lim, 1995). The CVF employs a four factor model to profile organizational culture, with two factors on each of two continua. The first continuum expresses the differences in culture between flexible versus stable approaches. The second continuum expressed the differences in culture in terms of an internal focus and an external focus by the organization. As presented in Figure 2, these continua bisect each other to delineate the four culture factors of the CVF; Clan, Adhocracy, Hierarchy, and Market.

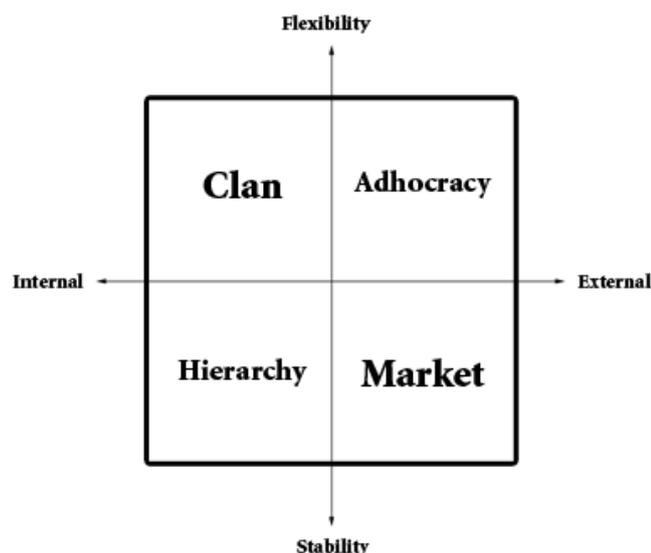


Figure 2. Cameron and Quinn's (1999, 2006) Competing Values Framework model (adapted from Cameron & Quinn, 2006, p. 35).

The Clan culture archetype is reminiscent of Wallach's (1983) supportive culture archetype, and is delineated by the flexibility and internal focus aspects of the CVF's continua. It is considered to be representative of a family-style organization, wherein members of the organization are involved in decision making, and teamwork is an important aspect of work (Cameron & Quinn, 2006). Employees are empowered, and often rewards for performance are provided to successful teams of employees, not individuals. An example of an organization that might be representative of the Clan culture archetype is that of a family-run small business, such as a greengrocer or small goods retailer. Business success is shared by the family it supports, justifying the internal focus of the organization, and (perhaps unsurprisingly) the bonds between employees are enhanced by the shared familial background.

The Adhocracy culture, which is delineated by the flexibility and external focus aspects of the bisecting continua of the CVF, is based on innovation as a means of organizational functioning (Cameron & Quinn, 2006). One of the aspects of the Adhocracy is its emphasis on specialisation and rapid change within the organization; employees will often come together to work on specific projects and then disband at completion. This method of functioning is reminiscent of Martin and Meyerson's (1988) ambiguity description of culture, however an organization with an Adhocracy culture is not limited by a lack of guidelines when approaching a task, and instead appears to be provoked into productivity when presented with a lack of boundaries. Cameron and Quinn described the Adhocracy as a culture of organized anarchy, with risk taking and autonomy as important aspects in its cultural functioning. Autonomous work processes and an emphasis on creativity and innovation are most directly represented by Google's (2010) approach to information technology, for example.

The Hierarchy culture, delineated by the internal focus and stability aspects of the CVF continua, is highly reminiscent of Wallach's (1983) bureaucratic culture described previously. It is concerned largely with stability in organizational functioning, and has clear guidelines regarding the manner in which organization should approach certain tasks (Cameron & Quinn, 2006). It is typified by a vertical approach to the levels in the organizational hierarchy, and focuses largely on smooth running efficiency. Local government bodies are a possible example of this form of culture, due to their readily observable processes relying on bureaucratic organization to process and respond to the demands of the local community. Regulations regarding building requirements, zoning permits, and vehicle registration are processed in standardised and predictable manner, due to the rules and standard procedures involved in addressing these areas. As a result,

local government bodies may be well represented by the stereotypical Hierarchy culture factor.

Lastly, the Market culture is delineated by the external focus and stability aspects of the CVF continua (Cameron & Quinn, 2006). This aspect of the CVF is concerned largely with competitiveness and winning. The market culture is driven by the need to create transactions with external bodies as a means of gaining an advantage in their organizational niche. Understandably, the market culture is concerned with profitability, and its actions reflect a need for securing productivity as a means of financial gain. An example of a market-oriented culture could be that of Foxconn, a manufacturer of electronic components previously discussed in the introductory chapter (see Chapter 1). Foxconn's extremely hard-driving, profitability-based focus is indicative of a preference for a Market-oriented culture. Foxconn regrettably appeared to pursue the hard-driving, productivity/profits focus of the Market culture stereotype at the expense of humanitarian aspects, culminating in nine worker suicides during a period prior to the release of Apple's iPhone 4 when manufacturing quota pressure was at its highest from the organization (BBC News, 2010). On a related topic, this example which demonstrated a focus on one aspect of the CVF at the expense of another 'opposing' factor by an organization represents an important property of the CVF model itself.

The CVF is interesting in that it allows predictions to be made due to the reciprocal opposition (Nelson & Gopalan, 2003) of factors diagonally opposite each other in Figure 2. It can be assumed that any influence a cultural preference has on organizational outcomes may be opposite for the opposing culture preference (Nelson & Gopalan, 2003). As will shortly be discussed in the context of organizational outcomes prediction, the reciprocal opposition aspect of the CVF and the clarity presented by its bisecting cultural continua makes it an attractive measure to use in the current study. The reciprocal opposition effect may provide validation opportunities with regards to the workplace outcomes examined as part of my study, which is important in consolidating the functioning of culture and outcomes. The CVF has also demonstrated evidence for stable factor structure via multidimensional scaling (Cameron & Quinn, 1999, 2006). However, it should be noted that confirmatory factor analysis based evidence for the model's validation has not been presented in the literature to the author's knowledge. In addition, the CVF is less values-centric compared to the OCP (O'Reilly, et al., 1991), therefore it is arguably more representative of a more diverse series of facets representative of the organizational culture construct. As previous authors have criticised quantitative measures of being too

narrow in scope, I believe the CVF attempts to strike a balance between breadth of construct and clarity in functionality.

2.2.6. Culture Measurement Summary. In this section I have discussed the differences in the ways in which organizational culture has been measured. While qualitative methodology may provide greater details in assessing culture, other authors have argued that the lack of comparability across organizations is a problematic aspect of this method (Jung, et al., 2009). Alternatively, while quantitative methods are beneficial in terms of their ease of deployment and ability to generalise beyond the sampled organization, there is an arguable lack of depth in cultural description compared to qualitative methodology (Jung, et al.). As I aim to use findings across several organizations and apply them to organizational outcomes (as will be discussed in greater detail during the rationale, see Chapter 6), quantitative methodology was considered to be more applicable. Brief reviews of three popular measures of organizational culture by Wallach (1983), O'Reilly, Chatman, and Caldwell (1991), and Cameron and Quinn (1999, 2006), indicated a degree of thematic similarity between the measures.

2.3 Outcomes of Culture

Before going on to describe the relationships between organizational culture and organizational outcomes, one caveat in this discussion should be reiterated. Definitions of culture, and its aspects, vary. This has been described in previous sections, however when discussing the implications that culture has on workplace outcomes I feel that this is an important point that should not be glossed over. Given that there are a variety of methods of conceptualising culture, it is problematic to argue that the results regarding culture found in one study are equivalent with other studies, despite being united under the common banner of 'examining culture'. As Jung et al. (2009) note in their review of the instruments used to measure organizational culture, different means of measuring organizational culture and its relationships with outcomes are arguably presenting different slices of the whole. Due to the range of sub domains within culture, measures are generally presenting aspects of organizational culture. Consider O'Reilly et al.'s (1991) Organizational Culture Profile; the name of the inventory alludes to covering organizational culture as a whole, when potentially it is tapping into the shared values aspect of organizational culture. Therefore when discussing the outcomes relationships with culture in the following sections, some caution must be made in generalising these findings due to the variability in culture's conceptualizations and measurement.

Secondly, for the purposes of presenting a broader picture of the linkages between culture and organizational outcomes, both qualitatively and quantitatively gathered data

will be described in the upcoming sections. Jung et al. (2009) has noted that there are often goal differences between qualitative and quantitative methods, however. Qualitative data is often used as a 'formative' measure of culture, while alternatively quantitative measurement is often seen as a 'diagnostic' means of examining culture (Jung, et al., 2009). Lim (1995) echoed these two differences in goals, naming them the 'process approach' and 'classification approach' respectively. Criticisms regarding the comparability between findings derived from qualitative methodology, and the limited validity and scope of quantitative techniques (Lim), are not without merit. Certainly the specific history of an organization derived from qualitative methodology is inimitable and therefore difficult to replicate when encouraging the relationships with desired organizational outcomes within a workplace. The narrowing of scope in quantitative measurements to spectrums of culture that interest the researcher will, by the very nature of model parsimony, be unable to capture the entirety of culture due to economy in their predictor choices. Therefore in the interest of presenting a varied perspective on organizational culture and its influences on workplace outcomes, both qualitative and quantitatively derived findings will be discussed in the upcoming section.

2.3.1. Job Satisfaction. There have been multiple links reported between the form of culture present in an organization and the degree of job satisfaction held by its employees. Balthazard, Cooke, and Potter (2006) noted that job satisfaction was positively linked to constructive cultures in Cooke and Lafferty's (1987) OCI. This relationship was indicative of a large effect size (Cohen, 1992). In a similar finding, perceptions of Group (akin to Clan) culture preferences in the organization as per the CVF (Quinn & Spreitzer, 1991) definition were positively linked to job satisfaction and patient satisfaction in a hospital environment [medium to large effect sizes] (Gregory, et al., 2009). Yiing (2009) noted that a supportive culture was a significant moderator with a large effect size of the relationship between organizational commitment and job satisfaction. Bellou (2010) discussed how organizational preferences for the fairness / attention to detail aspects of the culture as per the OCP (O'Reilly, et al., 1991) were positively correlated with job satisfaction (medium effect sizes). The degree of social support and cultural socialisation have been positively linked to employee job satisfaction (Cooper-Thomas, et al., 2004). Burke (2002) similarly found that the degree of team oriented culture preferences, in addition to aggressive cultural preferences, was moderately and positively correlated to job satisfaction. Strength of culture has additional positive links to employee job satisfaction (Tzeng, et al., 2002), and this relationship had a large effect size. In summary, there appears

to be a general trend for more supportive cultural types tending to foster greater job satisfaction in the workplace, with a medium to large effect size. (Cohen, 1992).

On a less positive note, Berson, Oreg, and Dvir (2008) noted that organizational preferences for a bureaucratic culture as per Wallach's (1983) definition was negatively linked to employee job satisfaction (medium effect size). Alternatively, aggressive/defensive and passive/defensive culture styles (as per the OCI definitions) were negatively correlated with employee job satisfaction [small to medium effect sizes] (Balthazard, et al., 2006). Additionally, Jandeska and Kraimer (2005) discussed how an overly masculine culture had a negative relationship with female employees' job satisfaction (medium effect size). Therefore there do appear to be negatively weighted correlates with employee job satisfaction when an organization's culture is more hierarchical and bureaucratic. Taking into consideration the tendency for the socially supportive and adaptive aspects of culture to be positively linked to job satisfaction, it would appear that there are diverging influences on job satisfaction tied to the type of organizational culture preferences within the organization.

2.3.2. Organizational Commitment. Echoing some of the cultural preferences trends discussed when examining job satisfaction, there appears to be an underlying trend for the more supportive or adaptive facets of culture to positively influence organizational commitment (Sikorska-Simmons, 2005). This appears to be a large effect size by Cohen's conventions (1992). Lok and Crawford (1999, 2001) demonstrated that organizations perceived to prefer the supportive and innovative cultures as per Wallach's (1983) measure had a large positive influence on organizational commitment, even after controlling for the influence of job satisfaction. Mathew and Ogbonna (2009) demonstrated that a 'unity' culture was positively linked to employee organizational commitment. Van Vianen (2000) reported a similar finding regarding a 'concern for people' aspect of culture, in addition to promoting a lower intention to leave the organization by employees. Furthermore a perceived organizational preference for a Collectivist culture (as per the Individualism/Collectivism construct) has been linked to improved organizational commitment (Jandeska & Kraimer, 2005), with a large effect size. However Parkes, Bochner, and Schneider (2001) have indicated that the relationship between a Collectivist culture influencing organizational commitment may be moderated by the presence of a Collectivist national culture.

In summary, there appears to be a positive association between the supportive forms of culture and the organizational commitment held by employees. Large effect sizes

were generally reported in the examination of the links between culture and organizational commitment.

2.3.4. Organizational Performance. General organizational performance has been also linked to cultural preferences exhibited by the organization in previous research. Randel and Earley (2009) noted an interesting link between the organizational culture's salience of differences between employees (i.e., gender, disabilities) and organizational performance. In some of the organizations sampled in the study, the degree of salience of these differences was minimised to avoid offending employees. These organizations had generally lower organizational performance compared to organizations that made these employee-level differences more salient. Randel and Early believed this was due to the retention of subjective interpretations in the 'polite' organizations of how the diversifying aspects of employees would impede their workplace behaviour. This outcome was interesting in that it defied the general trend of beneficial outcome predictions regarding the more internally focused and 'good natured' organization cultures discussed previously. Similarly Xenikou and Simosi (2006) noted a falloff in organizational performance with organizational preferences for both adaptive and humanistic oriented cultures, and this relationship had a medium effect size. However Lee and Yu (2004) found that the influence of culture on performance may be industry specific, after finding that manufacturing and insurance organizations demonstrated evidence for such a link, while the hospitals sampled in their study did not. Lim (1995) further queried the link between organizational culture and performance, noting that the performance linkages might be instead the results of effective management techniques. The relationship between culture and how well an organization performs does not appear to be as consistent as other outcome relationships discussed previously. However, the trend discussed wherein organizational performance may not benefit from the more humanistic and supportive forms of culture form an interesting contrast to the job satisfaction and organizational commitment findings. This may imply that what is good for the organization may not necessarily be as good for the employees in specific instances.

2.3.5. Training Effectiveness. The inclination to provide, and the effectiveness of, training has also been linked to organizational culture preferences. Connelly and Kelloway (2003) described how a culture that supports social interaction was related to having a knowledge sharing culture, with female employees reporting the link between social interaction and knowledge sharing cultures more so than males [large effect size]. A correlation among the perceived Bureaucratic, Innovative, and Supportive culture preferences of an organization to be related with the probability of training has been found

Taormina (2009). Bunch (2007) and Owen (2009) both noted that training effectiveness can be undermined by an organizational culture that does not support training. Owen specifically described how a lack of reflection and improvement via training in the aviation industry appeared to be due to a culture that marginalised training. In summary, it appears that culture preferences were associated with the impedance of effective training or the probability of training being undertaken.

2.3.6. Leadership Style. Leadership style is linked to organizational culture preferences (Wang, Shieh, & Wang, 2008), due to the supposition that culture is often representative of the values of leadership in the upper tiers of an organization (Schein, 1996). Yiing (2009) and Yousef (1998) have however noted that organizational culture appears to moderate the type of leadership styles present within an organization, which consequently has a trickle-down effect on organizational outcomes such as employee organizational commitment. A transformational cultural style has been moderately positively linked to ethical leadership within the workplace, whereas a transactional culture appears to be moderately negatively related to the ethical leadership styles of management (Toor & Ofori, 2009). Culture homogeneity appears to be moderately positively related to the management's use of transformational leadership styles (Dumay, 2009). Interestingly an organizational preference for the bureaucratic and supportive cultural types as per Wallach's (1983) definitions has been linked to a managerial preference for a controlling-oriented leadership style, whereas a preference for an innovative culture has been linked to more flexible leadership styles (Taormina, 2008). Managerial personality styles, such as higher agreeableness has also been linked to a large positive preference for clan culture within the organization (Giberson, et al., 2009). Lastly, Block (2003) has noted that there appear to be limited differences in leadership styles between different organizational cultures, however transformational leadership styles are linked with a positive perception of workplace culture (medium to large effect sizes). Therefore organizational culture appears to have a relationship with leadership styles of managerial employees. Similar to previous findings, organizational culture appeared to bear medium to large effect sizes in relationship to the measured organizational facet of leadership style.

2.3.7. Other Outcomes. Culture has been also linked to a variety of other organizational outcomes. The effectiveness of cultural change has been linked to the strength and degree of fit between merging organizations (Muratbekova-Touron, 2005; Schraeder & Self, 2003; Smith, 2003). Specifically, organizational preferences for the Clan-style culture has been linked to success in adopting new methods of working post-merger (Jones, et al., 2005). This was considered a moderate effect size with regards to Cohen's

(1992) effect size conventions. Both group (Clan) and entrepreneurial (Market) oriented cultures have been linked to better safety climates within organizations, while Hierarchy oriented cultures have been linked to poorer safety climate. The manner in which stress is appraised and dealt with has also been linked to the type of culture present within an organization (Lansisalmi, Peiro, & Kivimaki, 2000). In summary, organizational culture influences a variety of outcomes and aspects of the organization.

2.3.8. Culture Outcomes Summary. In this section I provided a brief review of some of the organizational outcome that have been linked to organizational culture. General trends seemed to indicate that supportive cultures were positively related to organizational outcomes, while the hierarchy focused cultures were negatively related to organizational outcomes. When effect sizes were considered, the links between culture and organizational outcomes were representative of medium to large effect sizes under Cohen's (1992) effect size conventions. Therefore, as an indicator of practical significance, the relationship between culture and organizational outcomes is likely to be representative of effects that are practically important and are not limited to theoretical importance.

2.3.9. Overall Culture Conclusion. In this chapter I have presented different conceptualisations of culture from the authors Schein (1990, 1993, 1996), Hofstede (1998), and Martin and Meyerson (1988). Variations in the measurement tools employed during culture assessment is influenced by these varying conceptualisations. The OCAI, based on Cameron and Quinn's (1999, 2006) Competing Values Framework, was argued to be preferable to the measures of Wallach (1983) and O'Reilly et al (1991) due to its parsimonious approach to culture measurement. A lack of validation via confirmatory factor analysis was noted during the review, therefore evidence of model validation in this regard would further strengthen the OCAI as a valid measurement tool of organizational culture. Following the review of culture measurement tools, a review of the associations between facets of culture and workplace outcomes was presented. Effect sizes reviewed during these past findings suggested that culture-outcomes relationships were likely to have practical significance in the workplace. Therefore the nature of the relationships between culture and workplace outcomes, specifically framed via the OCAI, may present an opportunity for more detailed and practically beneficial insights into the relationships between culture preferences and workplace outcomes. Relating these objectives to the Foxconn example covered in the introduction, by clarifying the manner in which culture and workplace outcomes are interrelated in terms of theoretical conceptualisation and measurement, organisational psychology may be an important tool in diagnosing maladaptive aspects of an organisation's functioning. The previously outlined facets

requiring further investigation as part of my study may aid in this clarification of culture and its ties to outcomes from an organisational psychology approach, which in turn may have practical implications when applied. These ideas are developed further during the rationale presented in Chapter Six.

CHAPTER 3: VALUES IN THE ORGANIZATION

As has been noted in the previous sections reviewing organizational culture, values are an important component of culture. The manner in which values are nested within a model of culture (Hofstede, et al., 1990) or tend towards synonymy (O'Reilly, Chatman, & Caldwell, 1991) varies depending on the interpretation of culture. Clarifying the relationship between values and culture is important in reducing ambiguity regarding what authors are discussing when employing these constructs; the overlap between the two constructs should be apparent following the review of culture conceptualizations. While defining values and discussing outcomes related to values is covered in the upcoming sections, the intention of this section of the review is to present the manner in which values and culture are arguably linked, but separate, constructs. A review of the subfield within the Person-Organization (P-O) fit literature that deals specifically with values congruence, and the related organizational outcomes that result from fit and misfit, will also be presented. In doing so, I expound a case for testing the possibility of congruence between individual values preferences and perceived organizational culture preference based on Schneider's (1987; 1995) Attraction Selection Attrition (ASA) hypothesis. In summary, I will be illuminating the manner in which models of values and culture correspond with each other, with the aim of clarifying both of these constructs. As clarification may provide practical benefits in the application of organisational psychology to values and their relationships with workplace outcomes, an overview of the theoretical and methodological approaches to values is important in approaching this goal.

3.1. Conceptualising Values

Rokeach's (1973) conceptualization of values is often cited when values are addressed in the literature (Cha & Edmondson, 2006), and will form the basis for much of the discussion of values in the upcoming section. Rokeach (p. 3) provided five aspects that identify what values are, and how they operate:

- ... (1) the total number of values that a person possesses is relatively small;
- (2) all men [sic] everywhere possess the same values to different degrees;
- (3) values are organized into value systems;
- (4) the antecedents of human values can be traced to culture, society and its institutions, and personality;
- (5) the consequences of human

values will be manifested in virtually all phenomena that social scientists might consider worth investigating and understanding.

The first point outlined by Rokeach, namely that individuals will have their values preferences decided from among a relatively small pool of possible values shared by all people, suggests that there is the possibility of an objective approach to values inventories. If the pool of values is small and shared by all people, it is therefore possible to suggest that values inventories can be created that tap into the majority (if not all) of this pool of values, and gauge preferences for the values. This measurement from a predefined selection of values remains a common approach to values assessment today (Cha & Edmondson, 2006; Kristof, 1996). Discussions of universalism reflective of Rokeach's second aspect of values, is an idea that has seen frequent use in the values literature (Schwartz, 1994, 1999; Schwartz & Bardi, 2001). Therefore the first two aspects of Rokeach's values conceptualization appear to have influenced values measurement, reflected in the frequent usage of a limited, common pool of items during the assessment of values. The commonalities in values stated by Rokeach are therefore Formist when considered in terms of Pepper's (1942) taxonomy of world views, which in turn has implications for the conceptualisation of values in this manner.

The grouping of sets of values together to form meaningful constructs or constellations by Rokeach (1973) is important. Organizing values by higher-order constructs is important in their conceptualization, especially in the development of measurement tools to gather information on values. Higher order factors can be tested using confirmatory factor analytic techniques to verify the reliability and validity of hypothesised groupings of values underlying meaningful values archetypes. Again, this has been examined using several different frameworks within the literature (e.g., Abbott, White, & Charles, 2005; Finegan, 2000; Schwartz, 1999).

Rokeach's (1973) supposition that values are intertwined with culture, and are influential with regards to organizational outcomes, echoes the linked nature of values and culture covered in the previous culture review (see Section 2.1.). For example Schein's (1990, 1993, 1996) 'onion layer' model of culture placed values at an unperceived level below artefacts and behaviours. In addition to their role within the context of an organizational cultural framework, values are generally important in social regulation of norms within a society, whether the society be an organization or a larger community group. Concordantly Schwartz and Bilsky (1987, p. 550) suggested that values influenced three important areas, 1) biologically based needs, 2) requirements of social interaction to coordinate among the group, and 3) institutional demands related to the survival of the

group. To provide an example of Schwartz and Bilsky's suggested interrelatedness of values and regulation, consider an organizational values preference pertaining to the competitiveness of an organization. If behaviours were a synergistic extension of values as suggested previously, then the securing of capital would fulfil the biologically-based needs required for the first facet suggested by Schwartz and Bilsky. Additionally, preferences for values that represent competitiveness will also require social coordination to plan advantageous acquisitions and dominance in their niche area, further pushing the group away from extinction due to lack of capital. The latter two outcomes would be representative of the requirements of social interaction and the institutional demand for group survival aspects of Schwartz and Bilsky's conceptualization. Values are therefore implicit in the understanding of culture, due to the manner in which values are linked to the creation of social norms for organizational coordination and survival. These aspects are then extended into behaviours that enact these values, demonstrating the gestalt within which culture functions.

Lastly, Rokeach's (1973) prediction that values would be widely studied by social scientists due to its varied influence on a multitude of phenomena has been quite evident, specifically when values are investigated via a Person-Organization (P-O) fit perspective (Cha & Edmondson, 2006; Fitzpatrick, 2007; Kristof, 1996). Due to its popularity within the values literature and its apparent conceptual breadth as discussed previously, Rokeach's (1973) conceptualization of values provides a means of developing values measurement tools that examine the facets of values previously discussed. However, in a manner similar to that of the conceptualization of culture discussed previously (see Section 2.1.), Rokeach's (1973) conceptualization competes with alternative conceptualizations of values within the literature.

While Rokeach's (1973) definition is commonly cited, there are a variety of alternative or supplemental definitions of values, possibly due in part to its limited perceptibility. As has been discussed previously with regards to Schein's (1990) 'onion-layer' model of culture, values as a measurable construct are not as obvious or salient to the assessor as the more tangible forms of culture, such as artefacts and uniforms. Schein also preferred qualitative measurement of culture due to the obfuscation of values within the cultural framework, believing standard quantitative measurement could not tap into its more abstracted influences. Hofstede (1990) similarly stated that values were at a deeper perceptible level in comparison to the salient indicators of culture, such as the behaviours and processes of the organization's members. Due to this degree of difficulty in being able to ascertain values as directly as other indicators of organizational culture such as artefacts

or behaviours, the construct appears to have been prone to misidentification in the literature. As discussed in a review by Fitzpatrick (2007), the manner in which values are conceptualized often appears to be blurred with other constructs present within the organizational psychology literature.

Fitzpatrick's (2007, pp. 286-287) excellent review of the values literature presented multiple constructs whose boundaries are often blurred with that of values:

Values are not: ethics (agreed codes of behavior adopted by people to use as guidelines for actions of the group to which they belong), morals (adopted viewpoints regarding our judgment of what is good or bad), principles (time-tested truths that are self-imposed or adopted as rules to obey in individuals' lives), judgments (labels that represent our beliefs about our moral perspectives), virtues (personality traits or characteristics that are considered favorable but are not necessarily personal preferences), attitudes (an expression of our beliefs and personality through behavior or words), needs (resources, actions or behaviors that are required to experience our values), beliefs (the reasons we have for our values), and finally; values are not emotions (feelings, whereas values are concepts).

Fitzpatrick (2007) therefore indicated that values have been misidentified with alternative constructs in the literature such as ethics and morals, and as a consequence the research on values was fragmented. This is a similar difficulty to that which has been alluded to in the culture review previously. Multiple approaches to the same underlying construct has promoted problems in gaining a consensus on what values *are* and what they *do* in the organization (Fitzpatrick). The problem investigators face lies with the choices made when determining which interpretations of values are applicable to their research goals. By choosing specific interpretations of values during values measurement, the investigator will inevitably have to ignore alternative interpretations of the construct of values. As a result the content of their discussion of values vary in a way that makes consensus regarding the specific facets of values quite difficult.

Taking this into consideration, the present study aims to examine values in terms of their higher-order components. Fitzpatrick (2007) has previously lamented the way in which authors often do not look across different contexts of values assessment to combine generalities found in the literature. It is therefore valuable to examine values from a macro-oriented perspective, by focusing on the higher-order constellations of values that can be derived from the general pool of possible values. Recall that Rokeach (1973) suggested that values are pooled in a manner that allows for a degree of commonality in their interpretation. By assimilating different subsets of values into higher order constructs, a

holistic interpretation of values and their influences on outcomes is more likely than an indicator-level account of values. An example of this approach is Schwartz's (1994, 1999; Schwartz & Bardi, 2001) values hierarchies, which grouped individual values indicators into thematically linked subsets of indicators.

3.2. Values Measurement

In the following section I present conceptualizations of values measurement and the associated theoretical underpinnings of values they represent. The measures reviewed are theoretically concordant with the conceptualization of values discussed by Rokeach (1973). In doing so, the following sections on values measurement will clarify the manner in which values have been conceptualized for practical purposes of identification in the workplace.

3.2.1. Schwartz's Universal Values Hierarchy. Schwartz (1994, 1999), and Schwartz and Bardi (2001), espoused a higher order conceptualization of values in the form of meaningfully grouped values indicators. Schwartz and Bilsky (1987) suggested that interpretation and prediction of the outcomes tied to values are more reliably extracted via meaningfully grouped values, instead of singular values predictors. This is an extension of basic measurement theory, as more indicators of an underlying factor often results in a greater degree of reliability in its prediction (Tabachnick & Fidell, 2007). Applied to the context of values however, Schwartz and colleagues have produced models of values constellations that depict groupings between like values. Furthermore, Schwartz and colleagues have demonstrated that certain values appearing to have opposing degrees of favour applied to them, such that preferences for particular values constellations decrease the favourability of other constellations.

Schwartz et al. (2001) described the tendency for 'cultural values'¹ to cluster together, based on a shared commonality across multiple countries with arguably variable cultures. Schwartz and colleagues' models have evolved since the late 80's to settle on a structurally valid 10 factor model that is aimed to represent the pool of common values from which humans draw. This model of values has been measured using both the Schwartz Values Survey (SVS) and the Portrait Values Questionnaire (PVQ), and both measures have indicated sufficient internal validity regarding the 10 factor model's stability (Schwartz, et al.). Schwartz and Boehnke (2004) have validated the model's 10 factors using confirmatory factor analysis, although their produced indicator-factor mappings deviated in some instances from that of Schwartz's previous work (e.g., Schwartz & Bardi, 2001). Consistent with Rokeach's (1973) impression of values (and an attractive aspect for quantitative measurement), Schwartz and colleagues' values constellations were drawn

from a relatively small pool of values. Accordingly, Schwartz presented values as being represented by the following 10 overarching constructs: Power, Achievement, Hedonism, Stimulation, Self-Direction, Universalism, Benevolence, Tradition, Conformity, and Security. These higher-order constructs are generally self-explanatory, i.e. Power is concerned with status and prestige (see Appendix A for full list of values constructs and indicators). As stated previously, the idea of grouping higher order values presents the researcher with the prospect of assessing the unique relationships between these higher order values. In turn, the properties of higher-order values constructs can be applied in the prediction of organizational outcomes, from which stems the practical applications of this model of values.

Firstly, Schwartz and others (1994, 1999; Schwartz & Bardi, 2001; Schwartz & Bilsky, 1987; Schwartz, et al., 2001) have discussed the idea of particular higher-order values demonstrating opposing levels of favouritism among their sampled participants. Consistent with Rokeach's idea that all individuals bear preferences for the same pool of values to varying degrees, the data of Schwartz and colleagues presented a conceptualization of opposing preferences for specific higher-order values. As demonstrated in Figure 3 specific values clusters are seen to be opposed to other values clusters, in a way that suggests preferences for one value will result in a diminished preference for the opposite (Schwartz, et al., 2001).

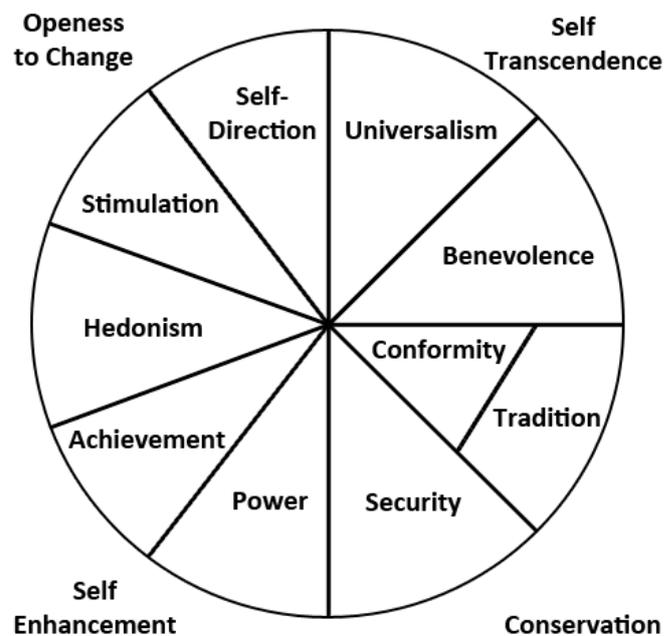


Figure 3. Structure of Schwartz and other's 10 factor model of values. Adapted from Schwartz and Sagie (2000). Value consensus and importance: A cross-national study. *Journal of Cross-Cultural Psychology*, 31, p. 470.

As indicated by the model, Schwartz and Sagie (2000) postulated that higher-order values aligned with the goal of self-enhancement were likely to be in opposition to values aligned with the goal of self-transcendence. Self-enhancement goals, aligned with the values of Achievement and Power, were in conflict with self-transcendence goals, which as indicated in Figure 3 were aligned with the values of Benevolence and Universalism. Additionally, values aligned with the goal of openness-to-change were more likely to be in opposition to values aligned with the goal of conservation. Openness-to-change goals, which were aligned with the values of Stimulation and Self Direction, conflicted with the values Tradition, Conformity, and Security, all of which were aligned to goals of conservation. It therefore follows that in addition to the conflicting goals and values specified previously, higher-order values that are neighbouring each other in Figure 3 were more likely to complement each other.

To further elaborate on the idea of conflicting and complementary values preferences within Schwartz's value model, Schwartz and Bardi (2001) discussed multinational data collected using the SVS. The authors found that despite differences in nationality, participants generally had a highest preference for values underlying the Benevolence higher-order factor. This higher-order factor was composed of values indicators such as Honest, Helpful, and Responsible (Schwartz & Bardi). The next most commonly preferred higher-order values were Self-Direction and Universalism, while Power was commonly viewed as the least favourable higher-order value by participants. Power is representative of indicator values such as Wealth and Authority. Taking these universal values preferences into account, it appeared that participants generally preferred values representative of the goal of self-transcendence, and showed preference for values underlying the goal of self-enhancement (Schwartz & Bardi). This pattern is consistent with the conflict/complementary values predictions described previously. In summary, it would seem that humans appear to have a preference for values entwined with goals of self-transcendence, akin to the predictions of Maslow's (1954) hierarchy of needs. It would therefore be probable that employees within organizations will prefer values aligned with the goals of self-transcendence, with a reduced preference for values aligned with the goal of self-enhancement.

3.2.2. Finegan's Four Factor Values Model. An issue of applicability in the organizational context is important to consider with regards to Schwartz's values model, despite its validation in generalised cross-national contexts (Schwartz & Bardi, 2001). Some values may not be applicable to the processes present within an organization (i.e. Schwartz's 'a world at peace' SVS item may not be relevant to workplaces beyond those of

armies / defence contractors). A streamlined interpretation of the way in which values are considered in the organization was presented by the Australian studies of Finegan (2000) and later Abbott, White, and Charles (2005). Finegan's model adopted a four-factor solution, and while it cut down the breadth of Schwartz's model, it bore a resemblance to the tier of values goals from Schwartz's work (see Figure 3). Additionally, it has a synergistic interpretable quality with the previously covered work of Cameron and Quinn (2006), due to the overlap of the four factors represented in each model. To demonstrate the claim of notable overlap between the models of Finegan and that of Cameron and Quinn, I will detail what is represented by the four values factors of Finegan.

Finegan's (2000) four factor model of values distilled the values inventory of McDonald and Gandz (1991) into four meaningful clusters: Humanitarian, Vision, Adherence to Convention, and Bottom-Line Oriented values. The Humanitarian values cluster was representative of values such as Consideration and Forgiveness, while the Vision values cluster was representative of values such as Creativity and Openness. The Adherence to Convention values cluster was representative of values such as Obedience and Formality, and lastly, the Bottom-Line Oriented values cluster was representative of values such as Economy and Logic. Finegan developed these factors on the basis of the underlying values they represented after performing an exploratory principal components analysis. On the basis of the description of these values factors and their indicators, it is apparent that there is a degree of overlap with Schwartz and Sagie's (2000) goal-influenced values. Much as Schwartz and Sagie proposed specific goals influencing values, Finegan has represented similar factor structures with different data using exploratory techniques that are congruent with the ideas of Schwartz. As a result, the four factor model of Finegan is arguably a streamlined interpretation of the overarching constructs indicative of values previously discussed by Schwartz, and in the interest of model parsimony and external validity warrants further examination.

While Finegan's (2000) four factor model was parsimonious in the way it identified a small set of key higher-order values to describe organizational values, an Australian follow-up study by Abbott et al. (2005) further examined the factor structure and reliability of Finegan's original model. Abbott et al.'s re-evaluation of the four factor model, using the same scale as Finegan's previous study (McDonald & Gandz, 1991), instead found a three factor model to be best representative of model fit. This was due to a very high correlation between the Bottom-Line Oriented and Adherence to Convention factors (.91) during their analysis. However, there were additional factors that might have contributed to this reduction of the four factor model upon retesting. A key variant in Abbott's et al.'s study is

that their data was gathered from two different organizations, instead of the single organization sampled by Finegan, thereby enhancing Abbott et al.'s external validity. Abbott et al.'s sample size ($N=285$) was substantially greater than that of Finegan's ($N=121$), additionally qualifying Abbott et al.'s follow-up study as possessing greater external validity in comparison to Finegan's original study. Interestingly, both Finegan's and Abbott et al.'s studies have variable alpha reliabilities for their extracted factors, varying between .59-.89 for Finegan, and .60-.89 for Abbott et al. While it is accepted as problematic to draw conclusions about model adequacy and accuracy on the basis of comparing two related studies, the factor structure stability of Finegan's model appears to warrant further investigation. Despite these concerns for model stability, a salient aspect of interest for Finegan's four factor model is its complementary properties with regards to the values model of Schwartz and Sagie (2000) and Cameron and Quinn's Competing Values Framework [CVF] (2006). Additionally, Abbott et al.'s re-evaluation of the model structure is thematically consistent with Finegan's identified factors, as it can be inferred that Abbott et al.'s collapsed factors represent the lower half of Schwartz and Sagie's model.

The instabilities of Finegan's (2000) four factor model provide an interesting dilemma for the values researcher. As discussed previously, the advantage of Finegan's model and the reasoning behind its emphasis in the current section is due to its synergy with the related model of Cameron and Quinn (1999, 2006). Identifying four overarching values clusters has definite advantages in terms of ease of interpretability, while its bisecting continua approach, concordant with that of Cameron and Quinn's CVF (2006), allows for breadth of concept to be analysed during quantitative analysis. The major problem lies within the unstable indicator and factor structure of the model. While the four factor model is theoretically consistent with the body of literature presented thus far, its validation has been troublesome due to its unstable factor configurations per the studies of Abbott et al. (2005) and Finegan. Alternatively, Schwartz's 10 factor model of values has demonstrated validity within numerous studies (Schwartz & Bardi, 2001). Therefore it is possible that a merging of measurement techniques used in both models may overcome some of the shortfalls of Finegan's four factor model, while retaining its predictive utility.

3.3. Workplace Outcomes and Values.

Within the research literature, outcomes associated with specific values within the organizational context were often framed in terms of person-organization fit, or values congruence (e.g., Abbott, et al., 2005; Finegan, 2000). The majority of research on the influence of values on organizational outcomes has focused on perceptions of the organization's preferences for certain forms of values. Burke (2001) measured

organizational preferences for values conducive to a balance between work and personal life based on data from a sample of 530 participants, gathered using Kofimodos' (1995) scale. Organizations that were perceived to have values conducive to a balance between work and personal life were found to be less likely to promote workaholism (small to medium effect sizes). Two follow-up studies that assessed approximately 450 Australian psychologists for similar links regarding work/life balance and organizational outcomes also reported significant relationships between both variables. Perceived organizational value preferences for work/life balance were related to improvements in job satisfaction, lowered turnover intentions, higher wellbeing, and lessened stress for employees (Burke, Oberklaid, & Burgess, 2003, 2005). Again, these values-outcomes links were representative of small to moderate effect sizes (Cohen, 1992).

Additionally Dixon and Day (2010) longitudinally examined employee perceptions of organizational values at an oil company that eventually collapsed, assessing the possible antecedents of this collapse in the process. The organization was perceived to prefer values that were not conducive to successful functioning in the sector they were a part of, and this was seen as one of the factors that pushed the organization towards failure. Lyons, Duxbury, and Higgins (2006) examined whether there were variations in sector preferences for values employing a sample of approximately 550 employees from private, public, and para-public sectors. In concordance with Schwartz and Bardi's (2001) assumptions of limited variation of values preferences within the same nation, the sample of Canadian employees did not significantly vary in their values choices on the Schwartz Values Survey when compared cross-sector. When compared using Lyon's (Unpublished Dissertation) work values measure, public sector employees preferred work-values that contributed to society, while private sector employees preferred prestige-related work-values.

Alongside the discussion of values congruence, Finegan (2000) presented evidence for how Humanitarian and Vision values preferences had medium significant positive relationships with Affective Organizational Commitment. Humanitarian values preferences had an additional significant small to medium positive correlations with Normative Organizational Commitment (Meyer, Allen, & Smith, 1993) as well. Abbott et al. (2005) echoed Finegan's findings, describing significant positive correlations between preferences for both Humanitarian values and Vision values, and Affective Organizational Commitment. Similar ranges of effect sizes to that of Finegan were noted for Abbott et al.'s (2005) study.

In general, it appears that perceived organizational preferences for certain values (much like culture as discussed previously) are associated with specific organizational outcomes. The patterns of relationships between values preferences and organizational

outcomes are also reminiscent of the patterns between the cultural factors discussed previously. Admittedly, the greater focus in the literature has been on values congruence when regarding the construct of values influencing organizational outcomes. Therefore in order to present a broad perspective on values, culture, and the manner in which the two constructs are intertwined, the dominant area of values congruence will be assessed in the next chapter (Chapter Four).

3.3.1. Values Conceptualization and Links to Workplace Outcomes Conclusion.

In this chapter I initially discussed the obfuscated depiction of values. Much like culture's definitional variations covered in the previous chapter, values appears to be variable in interpretation. The major focus of this chapter has been to provide background for the models of values by Schwartz and colleagues (1994, 1999; Schwartz & Bardi, 2001), in addition to Finegan's (2000) four factor values model. Finegan's model was noted to have some variability in factor structure and indicators, however the model was appealing based on its theoretical synergy with both Schwartz's work and Cameron and Quinn's CVF (1999, 2006). Despite limited investigations of the effects of values on organizational outcomes without reference to P-O fit, values were correlated with several aspects of the organization. Effect sizes for these relationships varied however, indicating that the practical applicability of the values-outcomes linkages may not be as practically relevant as the previously reviewed culture-outcome linkages.

CHAPTER 4: VALUES CONGRUENCE

Person-Organization Fit (P-O fit) underlies the conceptualization of values congruence in much of the literature (e.g., O'Reilly, et al., 1991). P-O fit encapsulates the degree to which the employee fits (or does not fit) with the workplace. For example, consider an air traffic controller who is not detail oriented, and who is gregarious to the point where it displaces the importance of other pressing concerns. We might consider this person to be a poor fit within an organizational environment that places primary importance on employees responding accurately to the information being presented to them. In contrast to this anecdotal example, Schneider (1987) provided a theoretical conceptualization of the discussed dynamics of P-O fit to guide organizational research. Schneider's Attraction-Selection-Attrition (ASA) model described the factors that influenced the probability of fit within an organization, and is accepted as a popular conceptualization of the dynamics of P-O fit (De Cooman et al., 2009). Before discussing the conceptualization of congruence per the ASA model, a review of the varying means of congruence conceptualization by Kristof (1996) will first be addressed. Following the conceptual review of the congruence literature, an examination of the influence of congruence on workplace outcomes will also be presented later in the chapter. By covering these areas in the review, I will provide the basis for later research goals that extend the manner in which congruence between employer and employee can influence workplace outcomes.

4.1. Conceptualizations of Values Congruence

4.1.1. Kristof's Fit Conceptualizations. Kristof's (1996) review of the theoretical basis for congruence provides an excellent overview of the varying forms of congruence and their diverging goals. Congruence can be considered in terms of a contrast between Supplementary fit and Complementary fit. Supplementary fit describes the manner in which the individual supplements or bears similarities to other employees in the organization, while Complementary fit describes the manner in which employees adds to the organization as a means of making it into a greater whole (Kristof). Kristof additionally described a secondary system of deriving congruence on the basis of the Needs-Supplies form of fit or the Demands-Abilities form of fit. The Needs-Supplies basis of fit focuses on the organization fulfilling the needs or desire of the individual (Kristof). The Demands-Abilities form of fit has a reversed perspective, wherein the individual needs to be able to fulfil the demands of the organization (Kristof). On the basis of Kristof's conceptualizations

of P-O fit, congruence occurs when any of the aforementioned conceptualizations of fit are fulfilled by the employee-organization relationship. In summary, the four varying methods of conceptualising fit represent the breadth of scope that measures of P-O fit have addressed in the literature.

4.1.2. Schneider's ASA Model. Schneider's (1987) conceptualization of the dynamics of fit rest on the process suggested by the title of the ASA model. Attraction refers to the process by which individuals are more likely to become interested in prospective fields of employment or organizations, as they are reflective of aspects of themselves. Schneider suggested elements such as personality and general interests might be a vector for this part of the ASA model. For example, a hypothetical employee may have an interest in computer technology and a high-achieving, details-oriented personality. It seems logical to suggest that they might be attracted to computer programming as a possible occupation choice, and would be likely to benefit from pursuing a career at a competitive technology organization befitting of these interests and traits.

Following the Attraction aspect of P-O fit, Schneider (1987) proposed the Selection aspect pertaining to P-O fit mechanics. The Selection component states that the prospective employee selection at an organization is more likely to be carried out on the basis of shared attributes, as opposed to shared competencies. To present another hypothetical example, a prospective employee may present themselves in a free-thinking and creative manner while undertaking the selection interview process, being focused on their ability to innovate and create new ideas. Theoretically a selection panel composed of like-minded individuals would identify with this prospective employee under Schneider's proposed ASA model. It would be likely in this presented instance that the selection panel would regard them as a good fit in the organization due to these shared personal attributes. Therefore Schneider predicted that *similarities in personal attributes* are the key factor in prospective employees regarding their gravitation towards and (hopeful) acceptance by the organization for a term of employment.

Lastly, Schneider (1987) described the Attrition aspect of the ASA model, which was concerned with termination from the organization. Schneider predicted that individuals would be more likely to leave the organization on the basis of perceiving a lack of fit with the organization, or from poor performance (which may be tied to the former). For example, an employee who self-identified as a maverick may have difficulty fitting within an organization that is highly structured and regulated in its approach to business, such as a bureaucratically-inclined government organization. As a consequence of an individual's termination from an organization in order to seek a better fit (a return to the Attraction

aspect), the remaining employees would trend towards homogeneity. Schneider warned that the organization is at risk of becoming stagnated via the loss of employees in this manner. The homogenous workgroup may lead to difficulties in adapting to situations outside of the organization's status-quo. Therefore, Schneider believed organizations should be mindful of the ASA process driving their organizations towards eventual homogeneity.

4.2. Congruence Measurement. In light of the congruence conceptualisations of Kristof (1996) and Schneider (1987), different approaches to measuring congruence have arisen. The following section details the perspective and measurement tool differences used in the literature.

4.2.1. Kristof's Actual-Perceived Congruence Differentiation. Kristof (1996) differentiated between two different methods of measuring values congruence; actual versus perceived fit. The difference between these two forms of fit not only alters the type of question being asked by the researcher, but predictably the manner in which congruence is determined. Assessment of actual fit involves comparing participant data to separate data reflective of the organization, and then judging the degree of fit between these two sources (Kristof). For example, an overarching score representative of the organization's preference for particular value dimensions could be gathered, and then these scores could be compared to individual-level data (possibly commensurate items). Actual fit measurement as defined by Kristof is therefore based on the creation of an organizationally-representative score for the predictor/s of interest. This organizationally-representative score is used as the basis for comparison to that of each employee's score, forming an index of P-O fit in the process.

Alternatively, perceived (or subjective) fit involves assessments of the participant's and organization's perceived preferences for a particular values dimension (Kristof, 1996). For example, employees may specify how greatly they prefer specific values or culture indicators, for both themselves and for the degree they perceive the organization to prefer the same values or culture indicators. On the basis of this data, the analyst can mathematically compare the degree of closeness between the two preference data sets. As a consequence, there is a fundamental difference between assessing congruence from the basis of a consensus-driven representation of the organization [actual], or an individually derived perception of the organization [perceived fit] (Kristof). This in turn has effects on the results obtained during fit measurement, as will be discussed further in section 4.3.7.

Congruence can also be determined via indirect or direct methods (Kristof, 1996). A direct measurement of fit may ask the participant how well they feel they fit with their

organization, or how congruent they believe they are with the workplace. Alternatively, an indirect measurement of fit is an attempt to gather information about fit in a similar manner to the example provided previously regarding subjective fit. For an indirect measurement of fit, the participant may be asked to rate their personal preference and their organization's preference for a particular variable, allowing the researcher to mathematically derive congruence from this data (Kristof). Again, both methods obtain different forms of data for the same goal of establishing the degree of congruence, therefore the researcher must be aware of the inherent differences between both methodologies. As will be detailed further in section 4.3.7, variations in conceptualization may affect the effectiveness of fit measurement in certain circumstances.

Therefore when considering the measurement of congruence, the variations between direct/indirect and perceived/actual fit provide the researcher with decisions regarding sufficiency of the chosen methodology in answering the questions being asked. Additionally, there are methodological limitations regarding the potential for outcome ambiguity that should be addressed during the analysis of fit (Kristof, 1996). In Kristof's thorough review of the fit literature, she described how the manner in which actual measurement of fit (generally via the use of difference scores [D]) can be problematic due to the potential for ambiguity. When using difference scores to assess how well participants fit within the organization, it is unclear which specific aspects the participants have used to determine this degree of fit. Often this is due to the fit query's broadness. Commensurability is another issue to be considered (Kristof, 1996). When differing questions are being asked of the organization (or its representative/s in the case of actual fit) and of the employees, the degree of homogeneity between what is being asked becomes a variable aspect (Kristof). Alternatively, asking identical appraisals of the individual and organization allows for greater confidence in the meaning being identical in both assessments (Kristof). Lastly, issues regarding the validity of individual data pooled together to represent an organizational average on a particular dimension was regarded as problematic. Kristof cautioned that pooled data representing the organization may lose variations in perceived values fit at different levels of the organization due to genuine values differences between levels. Instead, these between-level differences are discarded as error in a pooled set of data. In summary, there are a series of key considerations that require mindfulness when approaching congruence.

4.2.2. Congruence Measurement Tools. In the upcoming section I will focus on two common measurement tools used in the values congruence literature. The first tool, O'Reilly et al.'s (1991) Organizational Culture Profile [OCP], measures values congruence as

a function of culture congruence. O'Reilly et al.'s measure employs a Q-Sort technique to determine congruence. Secondly, I'll discuss an alternative method of establishing congruence via polynomial regression (Edwards, 1993, 1994, 1996). Both methods vary in the conceptualization of establishing congruence, and I will present a critique of both methods.

4.2.3. O'Reilly's Organizational Culture Profile. O'Reilly et al.'s (1991) OCP used an indirect method of assessing congruence via a Q-Sort methodology. The OCP employs 54 values statements, and asks participants to reorder the values statements in a manner that reflects their personal desirability. To assess for congruence, the OCP administrator is required to gather assistance from an individual or party knowledgeable of the organization to similarly sort the set of values statements in a distribution to be reflective of the organization (O'Reilly, et al., 1991). This organizational-level profile is then used as the basis for comparison against individual-level data created by employees. This form of fit is indicative of the indirect method of measuring fit as previously described in Kristof's (1996) review, as employees are not asked to specifically indicate their level of fit with the organization. Instead they are being asked to create a profile of their values preferences, and based on comparisons of this created profile with that of the organizationally-representative profile, congruence is derived via correlation. O'Reilly et al.'s method of establishing congruence is therefore indicative of an actual assessment of congruence (Kristof). The basis of comparison for the individual's values preferences is the profile created by an organizational representative or party, thereby representative of the organization's *actual* values.

O'Reilly et al.'s (1991) OCP therefore bypasses the problems previously discussed with regards to the direct measurement of values. However the manner in which the OCP employed actual values congruence as its basis for assessing P-O fit is potentially problematic, as it remains subject to the problems associated with difference score use (Kristof, 1996). Additionally, Q-Sort methodology as a means of assessing values congruence has been criticised for the possibility of assessing fit in terms of profile shapes, instead of profile contents (Kristof). Edwards (1993) criticised the use of the Q-Sort methodology for related reasons. Edwards discussed the manner in which it was possible that different employee profiles may score similarly in terms of their dissimilarity to the organization's profile, while these profiles may represent completely distinct sources of dissimilarity. The implications of the ambiguity in assessing congruence presented by the latter aspects of the Q-Sort methodology are potentially quite troubling, as both authors inferred that accuracy in assessing fit is compromised by these problems. To provide

contrast, I will now discuss Edwards' (1993; Edwards & Cooper, 1990) method of establishing congruence via polynomial regression, as it attempted to address some of the previously discussed limitations through the use of unconstrained regression formulae.

4.2.4. Edwards' Congruence Methodology. Edwards' (1993, 1994, 1996; Edwards & Cooper, 1990) method of establishing evidence for congruence between two constructs, such as the individual or perceived organizational preferences for values, provides a methodological alternative to difference scores. It allows the researcher to account for forms of congruence that often cannot be accounted for in traditional difference scores (D) methodology, by using algebraic variants of two constructs to thoroughly test for congruence. It also has advantages of limiting the need for model constraints when describing the degree of congruence between constructs. While polynomial regression may seem unwieldy or overly complex, especially in comparison to O'Reilly et al.'s (1991) streamlined method of profile similarity matching, the technique has the prior listed benefits. For clarity I will now elaborate on the mechanisms of Edwards's polynomial regression techniques, to preface analysis directions discussed in the rationale.

Edwards and Cooper's (1990) discussion on the advantages of polynomial regression techniques over that of difference scores firstly focuses on the problems with linear congruence indices. Firstly, Edwards and Cooper (p. 301) state that the common formula (Formula 1) of establishing the influence of difference scores has a limitation on the coefficients. This is demonstrated in Formula 2, which is the expansion of Formula 1, demonstrating the constraints employed in the use of difference scores.

$$1) \quad Y = b_0 + b_1(P - E) + e$$

Where Y = outcome, P = employee preference, E = organization preference, e = error, b = coefficient.

$$2) \quad Y = b_0 + b_1P - b_1E + e$$

Where Y = outcome, P = employee preference, E = organization preference, e = error, b = coefficient.

In the first formula, the slope coefficient, b_1 , applied to the difference between the person (P) and environment (E) scores, means that the slope coefficients of P and E must be equivalent in the second formula (Edwards & Cooper). Additionally, it implies that one set of scores must have an opposing coefficient direction in comparison to its partnered construct. Edwards and Cooper (p. 301) present an alternative to this traditional linear method of modelling difference scores, which is represented in Formula 3.

$$3) \quad Y = b_0 + b_1P + b_2E + e$$

Where Y = outcome, P = employee preference, E = organization preference, e = error, b = coefficient.

The third formula assesses linear congruence in a parallel manner to that of the difference scores examples presented previously, however it importantly enters both terms

simultaneously in an unconstrained manner. As both the P and E data is entered simultaneously and is allowed to explain the dependent variable of interest without having the aforementioned constraints imposed upon them, they cannot explain any *less* of the model variance than the traditional difference scores method (Edwards & Cooper). It is evident that the unconstrained model is more likely to explain more of the variability in the dependent variable than the model with artificial constraints. If the data reflect linear congruence in a manner consistent with difference scores, the slope coefficients b_1 and b_2 in the third formula would be statistically significant predictors of the dependent variable, with opposing coefficient values (Edwards & Cooper). Should the variables not conform to this pattern, then congruence information unattainable by difference scores methodologies would be available for interpretation. In summary, by employing polynomial regression it is likely that the degree of model fit will be greater than when using difference scores alone. The lack of constraints imposed upon the model allows a more valid interpretation of congruence effects on a measured outcome variable.

Secondly, acknowledging that congruence may not always follow a linear pattern, Edwards and Cooper (1990, p. 302) discussed the use of difference scores expressed as non-linear equations. The difference scores based formula for non-linear modelling,

$$4) \quad Y = b_0 + b_1(P - E) + b_2(P - E)^2 + e$$

Where Y = outcome, P = employee preference, E = organization preference, e = error, b = coefficient.

has its quadratic element expanded as follows

$$5) \quad b_2(P - E)^2 = b_2P^2 + b_2E^2 - 2b_2PE$$

Where Y = outcome, P = employee preference, E = organization preference, e = error, b = coefficient.

Again there are implied limitations by using the difference scores method when analysing higher order models. In addition to the faults already noted regarding the linear components of congruence, the quadratic components have limitations in having the same coefficient direction as each other (i.e. positive or negative). The interactive term, $2b_2PE$, should theoretically have a slope coefficient value approximately double that of the squared individual P and slope coefficients, and should be opposite in sign (Edwards & Cooper). To avoid these constraints, Edwards and Cooper (p. 302) presented an unrestricted version of the previous formula,

$$6) \quad Y = b_0 + b_1P + b_2E + b_3P^2 + b_4PE + b_5E^2 + e$$

Where Y = outcome, P = employee preference, E = organization preference, e = error, b = coefficient.

which allows for the establishment of curvilinear congruence without the aforementioned artificial restrictions. All indicators are entered into the regression model, although in a hierarchical manner, with linear predictors being jointly entered prior to the entry of the

non-linear predictors on the following step. The formula can detect both the traditional 'U-shaped' quadratic relationship or an asymptotic relationship between the predictors. The criteria for establishing evidence of congruency between P and E predictors is summarised in Table 3, which details the slope coefficient directions.

Table 3
Coefficient Directions for Establishing Congruence Via Polynomial Regression.

Relationship type	P	E	P ²	PE	E ²
Positive linear	+	-	NA	NA	NA
Negative linear	-	+	NA	NA	NA
Positive U-shaped	NA	NA	+	-	+
Inverted U-Shaped	NA	NA	-	+	-
Positive Asymptotic	+	-	+	-	+
Negative Asymptotic	-	+	+	-	+
Positive Inverted Asymptotic	+	-	-	+	-
Negative Inverted Asymptotic	-	+	-	+	-

Note. P = Person slope coefficient direction, E = Organization slope coefficient direction, NA = Not applicable, the researcher would expect a non-significant result for the listed predictor if the given form of congruence was true. All five coefficient directions would be assessed following the entry of the non-linear set of predictors. Adapted from Edwards, J. R., & Cooper, C. L. (1990). The person-environment approach to stress: Recurring problems and some suggested solutions. *Journal of Organizational Behaviour*, 11, 293-307.

To aid in the understanding of how congruence functions between employee and organization, surface response modelling (SRM) is often conducted in addition to polynomial regression (Edwards & Cooper, 1990). As the perpendicular X and Z axes of the three dimensional SRM graphs underlie the congruence and incongruence influence on the dependent variable (Y axis), the technique afforded researchers an approachable method of congruence testing analysis. Edwards (1993, 1994, 1996) recommended the use of this type of graph when approaching congruence analysis using polynomial regression techniques.

In summary, the expanded version of the non-linear congruence formula provides a feasible alternative to the difference-scores based analysis method. As indicated in Table 3, the use of one polynomial regression formula permits the analysis of several forms of congruence, thereby providing a more thorough approach to indirectly assessing congruence through difference scores (Kristof, 1996). In addition to the variety of methods in determining *what* is being implied with congruence research, polynomial regression analyses extended the previous difference-scores based method of establishing congruence. The sheer gamut of options available to researchers who employ polynomial regression modelling as a means to indirectly test congruence between the individual's

preferences and those of the organization are notable. These findings will be reflected in the rationale.

4.3. Evidence for Congruence Theory and Ties to Workplace Outcomes

In light of the congruence measurement methods outlined previously, the following section details findings regarding congruence and workplace outcomes. Specific evidence for Schneider's (1987) ASA model is reviewed first, followed by general congruence findings involving organizational outcome variables pertinent to the current study.

4.3.1. Evidence for the ASA Model. Schneider's (1987) model presented a phase-based approach to the manner in which employees become interested in and hired by organizations, and the drive behind their termination from the organization. While it is attractive in its relatively straightforward implementation of three influences on P-O fit, the evidence supporting this model is valuable in supporting its application in the current study. Schneider, Goldstein, and Smith (1995) provided an evaluation of the ASA model that was positive in terms of its predictive merit. Regarding the Selection aspect of the model, Schneider et al. noted that there was a general pattern of the organization's founding member's personality and goals shaping the direction and processes present within the organization. As a consequence of this process, it was more probable that like-minded employees were more likely to be hired. Reinforcing homogeneity, Johnson and Jackson (2009) noted that organizations with employees bearing preferences for collectivist identities had a higher probability of bearing values conducive to interdependence. The reverse of the latter noted correlation between employee and organizational homogeneity was also true. Furthermore Boone, van Olffen, and Roijackers (2004) presented results indicating that the attraction and selection processes are apparent even during tertiary education. In their study, Boone et al. noted that students with similar personality characteristics to that of members of specific occupations were accepted into compatible courses of study conducive to future employment in these occupations.

In addition to the previously presented confirmatory findings of Schneider's (1987) ASA model, Ostroff and Rothausen (1997) noted that as employee tenure increased, the probability of significant similarities in their personal attributes increased. This finding supported the Attrition aspect of the ASA hypothesis, as presumably the employees who were ill-fitting within the organization would have left prior to obtaining a higher tenure. Schneider, Smith, Taylor, and Fleenor (1998) noted that managers within an organization share an aspect of homogeneity with regards to their personality type. Their assessment of 13,000 managers across multiple organizations demonstrated that managers within the same organization were significantly likely to have similar personality configurations.

Interestingly, Schneider et al. added that the manner in which organizational reconfigurations often occurred was likely to be hamstrung by this homogeneity in manager personalities influencing policy. As the same band of like individuals assumed managerial roles, processes divergent from the current processes in place (and therefore divergent from the current preferences of the management) were less likely to succeed (Schneider, et al.). Furthermore, Schaubroeck, Ganster, and Jones (1998) presented evidence for similar personalities emerging in similar types of organizations. This finding supported not only the ASA model of Schenider, but additionally Holland's (1985) personality-based occupation fit theory. Refining the examination of the ASA hypothesis, Ployhart, Weekly, and Baughman (2006) used multilevel analysis to find that homogeneity among employees was more common at lower levels of the organizational hierarchy. It is possible that the relative role complexity increases at higher levels of the organizational hierarchy, such that deviation from homogeneity may be desirable at these levels to avoid stagnation as discussed previously. In summary, Schneider's ASA model has demonstrated evidence as a model of the process of P-O fit.

Much of the ASA research discussed thus far has been based on personality as a key component of similarity between the attributes of the organization and its employees. Values can arguably be considered in a similar manner. Hofstede (1998) discussed values as being of a more basic and fundamental aspect of the human condition. Personality is a fundamental aspect of the cognitive composition of an individual. As described previously, employees within organizations demonstrate a degree of homogeneity with regards to their personalities. Values congruence may therefore support the ASA hypothesis due to the similarities with personality previously identified. It is probable that the types of values individuals prefer will have a degree of consistency with the perceived attributes of the organization. It would also be likely for organizational representatives to perceive the individual as consistent with what it perceives itself to represent (in terms of the organization's values, and concurrently culture) for selection to occur. Lastly, it is probable that individuals with incongruent values would be more likely to leave the organization. This would be consistent with the Attrition facet of Schneider's (1987) ASA model.

In summary, the role of values within the process suggested by Schneider's (1987) ASA model appear to be conducive to the personality-focussed findings discussed previously. Congruence definitions in P-O fit however are notably variable in their approaches. Consideration of the influence of congruence on workplace outcomes, and the effect of congruence conceptualization on the linkages between congruence and outcomes, will be addressed in the following sections.

4.3.2. Workplace Outcomes and Values Congruence. As stated previously, values congruence and organizational outcomes have been strongly tied within the literature. I'll now present a summary the relationships between values congruence and the organizational outcomes of job satisfaction, organizational commitment, and other linked outcomes.

4.3.4. Job Satisfaction. Sarris and Kirby (2005) demonstrated a positive correlation between congruent values of the employee and organization and the degree of employee job satisfaction. Further, incongruence between CEO values and those of the managerial employees below them was found to provoke both task and relationship conflict (Lankau, Ward, Amason, & Ng, 2007). Westerman and Cyr (2004) used the OCP (O'Reilly, et al., 1991) to demonstrate that both values and work-environment congruence was a significant positive predictor of job satisfaction, however this was not demonstrated for personality-based congruence. Additionally, perceptions of hypocrisy between espoused and enacted values of the management team at organizations, leading to employee disenchantment, was found to be exacerbated by perceptions of incongruence (Cha & Edmondson, 2006). Similarly greater stress was reported by employees in organizations with which they were not congruent, in addition to having a higher probability of perceiving a violation of psychological contract (Bocchino, Hartman, & Foley, 2003). In summary, incongruence appears to have a general link with factors related to a limiting of job satisfaction and its associated negative outcomes.

In a meta-analysis of the effects of fit on various organizational indicators including job satisfaction, Verquer, Beehr, and Wagner (2003) found that there was a weak positive correlation between fit and the outcome of job satisfaction (small-to-medium effect size). Kristof-Brown, Zimmerman, and Johnson (2005) conducted a meta-analysis on the effects of the varying conceptualizations of congruence (see Section 4.2.1.) in a manner similar to that of Verquer and colleagues. Kristof-Brown et al. demonstrated significantly higher correlations between fit and organizational outcomes in comparison to the meta-analysis previously discussed. The relationship between fit and job satisfaction (.44; large effect size) was markedly higher than the weak to moderately weak relationships discussed previously (Kristof-Brown et al., p. 311). Kristof-Brown et al.'s meta-analysis involved more studies than the similar study of Verquer et al. Therefore the discrepancy between the results is likely to be due to the additional data available for analysis, as noted by Kristof-Brown and colleagues in their review of findings.

4.3.5. Organizational Commitment and Turnover. Finegan (2000) noted that congruence between employee and organizational values on the Humanitarian and Vision

values clusters were associated with improved Affective Organizational Commitment (Meyer, et al., 1993). Humanitarian values congruence also influenced Normative Organizational Commitment, which like Affective Organizational Commitment, was seen as a beneficial form of commitment (Meyer, et al.). Conversely, Adherence to Convention values congruence and Bottom-Line Oriented values congruence were associated with greater probabilities of employees bearing Continuance Organizational Commitment. As Continuance Organizational Commitment described the feeling of being ensnared by the organizational due to a devaluation of skills elsewhere (Meyer, et al.), this finding was not positive (Finegan). Abbott et al. (2005) found different results, with congruence between employees and the organizational for Adherence to Convention values being indicative of improved Affective and Normative Organizational Commitment. Adherence to Convention congruence was conversely linked to a decrease in the probability of Continuance Organizational Commitment in Abbott et al.'s results, opposing the results of Finegan described previously. Rosete (2006) demonstrated that the congruence between organizational values and the policies enacted by HR was positively linked to generalised employee organizational commitment. Westerman and Cyr (2004) presented findings indicating that both values congruence and work-environment congruence were significant predictors of organizational commitment and turnover intention, while personality congruence was only a significant predictor of turnover intentions. Sarris and Kirby (2005) demonstrated that group cohesiveness was also positively linked to perceptions of congruence. Lastly, De Cooman et al. (2009) provided evidence for a significant influence of values congruence on turnover intention, indicating that congruence was linked to lower probabilities of turnover.

Verquer et al.'s (2003) meta-analysis on congruence and organizational outcomes also examined organizational commitment. Verquer et al. indicated that the correlation between fit and organizational commitment was that of a weak positive correlation was indicative of a small effect size. Kristof-Brown et al. presented alternative findings in their meta-analysis of fit and workplace outcomes. The authors indicated that the relationship between fit and organizational commitment was moderately strong ($r = .51$), as was the link between fit and turnover intention [$r = -.35$] (Kristof-Brown et al., p. 311). These fit-outcomes links were indicative of a large and moderate effect size, respectively. As Kristof-Brown et al.'s meta analysis involved a larger participant pool and is therefore considered to be a more valid account of the nature of the fit-outcomes link, there appears to be a prominent fit-commitment and fit-turnover intention link.

4.3.6. Additional Organizational Outcomes. Hoffman and Woehr (2006) followed up Verquer et al.'s (2003) meta-analysis results by extending the outcome measures being analysed to include the behaviours of actual turnover, task performance, and organizational citizenship behaviour (OCB). The intention of this widening of scope was to provide applied meta-analytic findings separate to that of the attitudinal outcome focus of Verquer et al.'s original meta-analysis. Hoffman and Woehr found a moderately weak positive relationship between fit and turnover / task performance, although this relationship was diminished when predicting OCB. Each of the aforementioned fit-outcomes links were indicative of small-moderate effect sizes as per Cohen's (1992) conventions. Fit and organizational outcomes therefore appear to be linked in a multitude of ways, although the degree to which these relationships exist is variable in strength.

4.3.7. Effects of Fit Conceptualization. In addition to the influence of fit on organizational outcomes presented previously, several meta-analyses studied the influence of the conceptualization of fit during P-O fit research. Verquer, Beehr, and Wagner (2003) examined the possible moderating nature of the conceptualizations of fit used during measurement, as per Kristof's (1996) fit distinctions. Verquer et al. found that subjective measures of fit had higher correlations with attitudinal outcome measures (job satisfaction, organizational commitment, and turnover intention) than did perceived fit. Perceived fit in turn had higher correlations than objective fit measures. Correlation-based methods of assessing fit were found to have higher correlations between fit and job satisfaction / turnover intention in comparison to difference scores, although this difference was diminished with regards to organizational commitment. P-O fit measures of values had higher correlations with the previously listed organizational outcomes in comparison to non-values-congruence P-O fit measures. Lastly, O'Reilly et al.'s (1991) OCP was found to have stronger correlations between fit and organizational outcomes in comparison to non-OCP measures. However, Verquer et al. (p. 485) noted that this may be due to the Q-Sort methodology employed by the OCP, wherein "...the forced distribution format of the Q-sort may have increased variance that contributed to the stronger effect sizes". In summary, Verquer et al.'s meta-analysis provides evidence for a small but consistent influence of fit on organizational outcomes. This relationship between fit and outcomes is in turn influenced by the measurement approach used to conceptualise fit, which has varying influences on the strength of the correlations between fit and outcomes. These findings will influence the current study's rationale.

Hoffman and Woehr (2006) followed up Verquer et al.'s (2003) previously discussed meta-analysis by extending the outcome measures being analysed to include the

behaviours of actual turnover, task performance, and organizational citizenship behaviour (OCB). Subjective measures of fit provided the weakest correlations with behavioural organizational outcomes, in comparison to the perceived and objective methods of defining fit. This contrasted with the findings of Verquer et al. presented previously. Subjective measures of fit appear to be most strongly tied to attitudinal outcomes, while the perceived and objective conceptualizations are tied most strongly to the behavioural outcomes as demonstrated in the findings of Hoffman and Woehr. In concordance with the previous meta-analysis, values-based measures of fit were stronger indicators of the behavioural organizational outcomes than the non-values-based congruence measures. Therefore differences in the forms of P-O fit were found to again exist for behavioural organizational outcomes, however the pattern of fit conceptualization primacy was somewhat reversed when comparing the attitudinal/behavioural outcomes.

Lastly, Kristof-Brown, Zimmerman, and Johnson (2005) conducted a meta-analysis on the effects of the varying conceptualizations of congruence (see Section 4.2.1.) in a manner similar to that of the previously discussed studies. Of particular note for the current study's congruence goals, the authors included an examination of the polynomial regression method of establishing fit (Edwards, 1994) and its links to organizational outcomes. Supplementary conceptualizations of fit had generally higher correlations with organizational commitment than did measures of needs-supplies fit, although these relationships were indicative of large and moderate effect sizes respectively (Cohen, 1992). Measures of fit that solely involved values, in comparison to multidimensional fit measures, had slightly weaker relationships with most organizational outcomes. However, this trend was reversed when examining organizational commitment. The links between values-only / multidimensional fit measures and organizational outcomes had approximately equivalent large effect sizes (Cohen, 1992). Similar to previous analyses, Kristof-Brown et al. demonstrated that values-based fit had a stronger relationship with organizational outcomes than did goal-based fit (moderate effect size) or personality-based fit (small effect size). They also noted that direct measures of fit generally had stronger relationships with organizational outcomes in comparison to indirect subjective fit measures. In summary Kristof-Brown et al. demonstrated that P-O fit had notable relationships with organizational outcomes, in addition to the variable methods of conceptualising fit altered the strength of said relationships.

4.3.8. Biases in Fit Measurement. Kristof-Brown et al. (2005) noted that measures of fit were possibly overestimating fit due to common method bias when presenting both the individual and organizational scales alongside each other. However,

they additionally noted that the greater effect size attributable to measures that use this form of presenting the individual and organizational preferences may be due to a more realistic interpretation of the degree of fit. Due to the visual proximity of the individual and organizational scales, the participant may use this salient information to accurately examine their degree of fit with the organization (Kristof-Brown, et al., 2005). On another methodological point, Kristof-Brown et al. discussed the manner in which the results derived from polynomial regression did not appear to have the congruence symmetry implied by the method. More specifically, they discussed how high/high preferences were more predictive of positive congruence outcomes than low/low preferences in P-O fit studies. This is interesting given the context of Edwards' (1994) analytical perspective on the method, which suggested that the unconstrained fit indices should be indicative of fit regardless of directionality (see Section 4.2.4.). Additionally, misfit between the person and organization was less detrimental when there was a greater organizational preference for a particular organizational aspect, instead of a greater employee preference. The amount of fit or misfit between employee and organization did not have equivalent relationship strengths with organizational outcomes. In summary, cautionary aspects of P-O fit methodology have been suggested by Kristof-Brown et al., specifically with regards to common method bias. As I will be using both close-proximity P and O preferences scales and polynomial regression as discussed in my upcoming methodology, these are salient points for the forthcoming rationale.

4.3.9. Congruence Methodology and Outcomes Conclusion. As previously discussed, values congruence can be analysed from multiple perspectives. P-O fit has been assessed in both a direct and indirect manner. Additionally it has been assessed as a subjectively inferred variable, or one that can be objectively tested against an actual indicator of the organization's preferences (Kristof, 1996). Links between fit and organizational outcomes, such as job satisfaction and organizational commitment, were evident in the reviewed material. Kristof-Brown et al.'s (2005) findings indicated that these linkages have generally large effect sizes. Therefore congruence is likely to have practical importance in the consideration of the aspects of the organization that influence workplace outcomes.

O'Reilly et al.'s (1991) Organizational Culture Profile was discussed in light of several ambiguity-related flaws pertaining to the use of the Q-Sort methodology. Due to the presented strengths of the polynomial regression modelling method of assessing congruence (Edwards, 1993, 1994), it would appear that this method is more viable to apply during the assessment of congruence. Presenting a side-by-side comparison of the

results gathered by traditional difference scores methods and the polynomial regression modelling method may help explore the effects of both methods.

CHAPTER 5: VALUES AND CULTURE - CLARIFYING THE OVERLAP

In the fifth chapter I will examine the problem of definition and measurement between the constructs of values and culture. Due to my concern regarding the manner in which these terms are treated with varying degrees of synonymy in the organizational psychology literature, the effects that these overlaps may have on the previously reported outcome relationships are reviewed. In doing so I hope to further assist in the clarification of how these constructs are represented in the literature, due to the implications of construct-synonymy in both theoretical and applied settings.

5.1 The Blurring of Values and Culture.

Values and culture have been discussed as constructs that share a degree of interrelatedness, as specified by authors such as Schein (1990, 1993, 1996) and Hofstede (1998; Hofstede, et al., 1990). Values have been considered to have an underlying influence on culture, such that culture subsumes values within the nexus of other aspects such as practices, artefacts, orientations, and attitudes. Values lie beneath the overt indicators of culture such as the uniforms employees wear, the colours and logos attributed to their organization, and the procedures conducted when working that typify the organization (Schein, 1990, 1993). As previously discussed, this is a conceptualization of culture that is consistent with the majority of literature on organizational culture. However the manner in which culture is measured has possibly shifted the emphasis of culture away from an even presentation of each of these aspects of culture. Instead, the emphasis on values as a conduit of culture has become a salient influence on the literature, and this is reflected in the ubiquitous usage of the concepts 'values' and 'culture' in unison to describe organizational culture. O'Reilly, Chatman, and Caldwell's (1991) Organizational Culture Profile (OCP) is an interesting example of this refined focus on values as the major contributor to organizational culture, and warrants focus in the upcoming review of the blurred conceptualization of values and culture.

5.1.1. O'Reilly et al.'s (1991) Organizational Culture Profile. O'Reilly et al.'s (1991) OCP is a commonly used measurement instrument when investigating organizational culture, as previously indicated in Chapter 2's presentation of culture measurement tools. It is pertinent that a key assumption of the OCP infers that person-culture fit, or organizational culture congruence between the individual and the organization, is primarily based on values congruence:

...basic values may be thought of as internalized normative beliefs that can guide behavior. When a social unit's members share values, they may form the basis for social expectations or norms. Should these be even more widely shared throughout a larger social grouping, an organizational culture or value system may exist.

(O'Reilly, et al., p. 492)

In a sense the congruent values in an organization form the basis of culture; they guide norms within the workplace. This process has been supported by previous studies (e.g., Berson, et al., 2008), such that employees with positions higher in the organizational hierarchy have values that significantly influence the processes and orientations within the organization. As a result, it is possible to conceive of culture as a trickle-down process flowing from values, and this line of reasoning is consistent with Schein's (1990, 1993) onion-layer approach to culture. It is conceivable that employees may function (and in effect, promote the culture of the workplace) in a manner conducive to these values, without this process necessarily being salient.

Providing that values congruence is the key indicator of culture congruence, it follows that there will be a parsimonious advantage in addressing culture with a greater focus on values. As model parsimony is a commonly desired goal of measurement (Tabachnick & Fidell, 2007), measurement tools such as the OCP may represent a transition towards tightening the conceptualization of culture. As many authors have previously noted that culture often included such a vastness of subsumed phenomena such as values, attitudes, processes, and artefacts (e.g., Cameron & Quinn, 1999, 2006; Hofstede, 1998; Hofstede, et al., 1990; Schein, 1990, 1993, 1996), it is understandable that the construct has a sprawling reach across many areas in organizational psychology. Therefore a valid question is whether culture should be meaningfully condensed in terms of its measurement by its major contributing indicator: values. Having identified values as the conduit for culture in the OCP, O'Reilly et al. have essentially presented a parsimonious solution to the generally sprawling dilemma of measuring culture. As a result, it is arguable that the measurement of values may be a method of establishing a valid approximation of culture.

Two problems present themselves as a result of this definitional transference between the two constructs of organizational values and culture. The first area of concern lies with a tool designed to assess culture being used to measure values. The second area of concern lies with the reduction of content validity when aiming to parsimoniously condense culture measurement into the measurement of values.

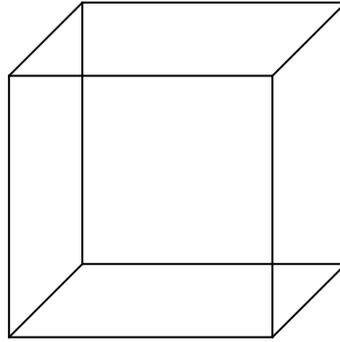


Figure 4. Adaptation of the Necker Cube optical illusion (Necker, 1832).

Figure 4 shows the Necker Cube (Necker, 1832), an optical illusion wherein the front surface of the cube can shift between the lower left or upper right face depending on the perspective it is viewed under. This figure may serve as an allegory of the first problem. For example, Bocchino and colleagues (2003) examined values congruence using the Organizational Culture Profile (O'Reilly, et al.). In this instance, a measure originally designed to measure culture is being used on the basis of its core components, that is, values measurement. Consequently, a culture measurement tool has 'snapped back' to a root function of values measurement, such that the concept of what is being measured by the tool has shifted on the basis of perspective, much as the front face of the Necker Cube may relocate. The same decision was made in Cooper-Thomas et al. (2004), where the OCP was used to measure values congruence in light of its superordinate intention as a culture congruence measure. Conversely, recent examples such as Bellou's (2010) and Jaskyte and Dressler's (2004, 2005) use of the OCP to measure organizational culture primarily as shared values, is indicative of the alternative use of the same measurement tool. The interpretative choice applied to the measurement tool has snapped back to the higher order function of values measurement as being indicative of culture. This aspect of culture measurement is therefore potentially problematic, as the distinctiveness of the constructs of values and culture appear to be loosened if both are capable of being measured by the same instrument.

If values congruence can be measured as being indicative of culture congruence, is it correct to then consider values congruence *via the same measurement tool* without the entangling influence of culture? In this example it appears that the perspective of the researcher altered according to whether values measurement was perceived to have a degree of synonymy with culture, or whether it stood alone. Work by Hofstede and colleagues (Hofstede, 1998; Hofstede, et al., 1990) highlights problems associated with the entanglement of values and culture, querying the relationship in terms of the content validity issues it raises.

5.1.2. Hofstede's Disentangling of Values and Culture. Hofstede and colleagues (Hofstede, 1998; Hofstede, et al., 1990) analysed the properties of culture at several large organizations, such as IBM, across several nations. Hofstede, as discussed previously, examined culture from a holistic perspective. Unlike the values-focused approach to culture underlying tools such as the OCP (O'Reilly, et al., 1991), Hofstede's conceptualization of culture (as shown in Figure 5) resembles that of Schein (1990, 1993, 1996) in terms of having an onion-layer formation.

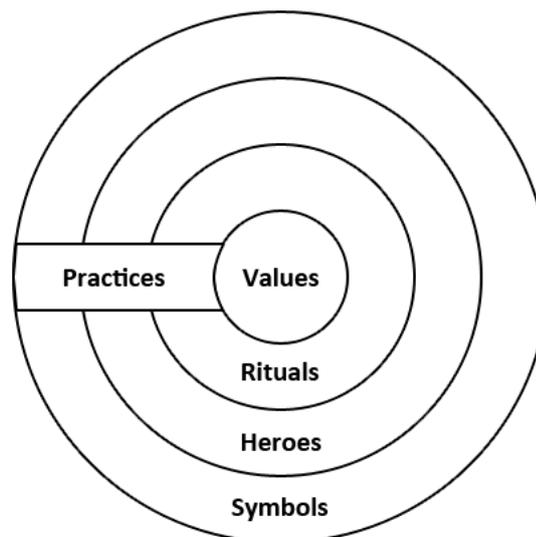


Figure 5. Model of culture as proposed by Hofstede et al. (1990, p. 291). Adapted from Hofstede, G., Neuijen, B., Ohayv, D. D., & Sanders, G. (1990). Measuring organizational cultures: A qualitative and quantitative study across twenty cases. *Administrative Science Quarterly*, 35, 286-316.

Again, we see that values are conceptualized as lying beneath the more overt indicators of culture, such as rituals, heroes, and symbols (Hofstede, et al.). The key diverging feature from the values-focused perspective of culture is the emphasis on practices within the organization being a key indicator of culture. Providing that culture can be summarised with values, the need for the involvement of practices in culture's measurement may appear redundant. In the examination of this question, Hofstede came to a key conclusion on this area of parsimony versus indicator inclusiveness. Data suggested that values differences were a key predictor of organizational differences and outcome related changes *between nations*, however the differences in practices were key contributors to organizational differences between organizations *within the same nation*. As the current study endeavours to examine cross-organizational differences in culture and

values using only Australian employees for practical reasons, it is arguably important to examine the practices-inclusive conceptualization of culture.

5.1.3. Values and Culture Differentiation Conclusion. Values and culture have been entangled within the literature to a degree that there is an arguable sense of synonymy between the constructs when using measurement tools such as the OCP (O'Reilly, et al., 1991). While measuring culture primarily via values is a parsimonious measurement approach, two key problems arise. The ability for a culture measurement tool to change its orientation to a values measurement tool, depending on the perspective of the researcher, is a questionable aspect of this approach. The second problem arises in terms of content validity, given that Hofstede et al. has presented findings that the practices of the organization are a key aspect in its predictive utility with regards to organizational outcomes. Therefore an investigation of the predictive differences between values and a holistic interpretation of culture is warranted, as will be covered in my study's rationale.

CHAPTER 6: RATIONALE AND HYPOTHESES

The aims, objectives, and associated research questions to be addressed in the current study are presented. The rationale provides support for the four overarching objectives that my study will investigate. Research questions and testable hypotheses are also presented alongside each objective.

The literature review has highlighted several key areas requiring further investigation. Firstly the validity of both culture and values measurement tools, the OCAI (Cameron & Quinn, 1999, 2006) and indicators representative of Finegan's (2000) values model respectively, needs to be established. Secondly, the nature of the relationships between culture and values, and employee outcomes, require further examination. As the relationships between values/culture and employee outcomes have previously indicated large effect sizes in the literature review, clarifying the nature of these relationships may be practically beneficial to organizations and their employees. Furthermore clarification of the manner in which congruence between values and culture, which has previously been suggested as plausible due to the possible model overlap between Finegan (2000) and Cameron and Quinn (1999, 2006), also requires investigation. If values and culture are entwined as reflected by the literature review, then investigation of the congruence between an employee's values and an organization's culture as based on the ASA model (Schneider, 1987) is warranted. Lastly disambiguation of the blurred conceptualisation of what values and culture represent requires addressing in this research. As a degree of synonymy between the constructs has been implied by past research, qualification of this synonymy is also important to examine.

6.1. Aims

There are two major aims: firstly, to investigate the validity and reliability of selected culture and values measures and their relationships with employee outcomes; secondly, to investigate the influence of values and culture congruence on employee outcomes. The following four objectives will guide the research questions and hypotheses tested as part of my study. Objectives One and Two address the first aim of the thesis, and Objectives Three and Four address the second aim.

6.2. Objective One: Culture Structure and Workplace Outcomes

6.2.1 Overview

The first objective is to examine the factor structure of the Organizational Culture Assessment Instrument [OCAI] (Cameron & Quinn, 1999, 2006) and its relationship with workplace outcomes. Therefore Objective One is as follows:

- O 1a)** To validate the OCAI as a statistically adequate model of culture.

- O 1b)** To demonstrate anticipated relationships between culture factors and workplace satisfaction.

6.2.2. Rationale and Research Hypotheses

OCAI: Based on the review presented in Section 2.2.5., the Organizational Culture Assessment Instrument [OCAI] (Cameron & Quinn, 1999, 2006) requires further examination. Cameron and Quinn specified model fit criteria based on multidimensional scaling data, but confirmatory factor analysis has not been conducted on the model to the author's knowledge thus far. As validation of the items used in the OCAI to measure specific culture factors is valuable to its integrity, this will be investigated. In doing so, my study will provide corroborating evidence for the OCAI's item-factor loadings to the already existing multidimensional scaling findings. Additionally, my study will examine the Cronbach's (1951) alpha coefficients as an indicator of internal consistency on a per factor basis, to further provide evidence for the validity of the OCAI.

In addition to addressing the item-factor loadings of the OCAI (Cameron & Quinn, 1999, 2006), my study will address whether the item-factor loadings were consistent at both the individual and (perceived) organizational levels of data. As no evidence for model consistency for both levels had so far been presented to the knowledge of the author (see Section 2.2.5.), this is an important area to examine in light of Kristof's (1996) review of fit conceptualizations discussed previously. Specifically, there are a multitude of difficulties associated with ensuring that the measurement of individual and perceived organizational values/culture is the same as when using an index of actual fit. While a subjective measurement of fit improves the commensurability of the employee/organizational data by requiring judgements of each using identical items, the evidence for identical item/factor support for both sets of data has not been presented thus far. Therefore this thesis examines if identical factors and indicator configurations are evident when asking employees to rate themselves and the organization using the same items in each instance.

The OCAI item factor loadings will be assessed by testing the following hypotheses:

- H 1a)** The item-factor structure for the OCAI (Cameron & Quinn, 1999, 2006) for the employee preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.
- H 1b)** The item-factor structure for the OCAI (Cameron & Quinn) for the perceived organizational preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.

GWS: As a means of testing the relationship between the culture factors and organizational outcomes without enhancing the prospect of Type I errors due to the volume of analyses conducted, the organizational outcomes are tested for suitability to be merged as an aggregated variable of General Workplace Satisfaction (GWS). GWS will consist of Job Satisfaction, Organizational Commitment, and Turnover Intentions; three key outcome areas previously addressed in the Sections 2.3., 3.3., and 4.3. Meyer, Allen, and Smith (1993, p. 545) have previously indicated a high correlation between Affective and Normative Organizational Commitment ($r = .74$), with a lesser but still significant correlation between Normative and Continuance commitment ($r = .15$). In addition to the repeatedly presented association between values/culture and these outcome variables, the prospect of a generalised criterion variable is viable for analysis. If the variable is validated, then it will represent a means of lowering Type I error due to superfluous analyses. Therefore, initial testing of the GWS variable's suitability as a composite measure will be conducted.

The validity of the GWS will be assessed by testing the following hypotheses:

- H 2)** Job Satisfaction, Organizational Commitment, and Turnover Intention will all load with adequate model fit on a single factor to indicate their unidimensionality.
- H 3)** The unidimensional Generalised Workplace Satisfaction variable will produce a calculated Cronbach's (1951) alpha statistic in excess of .70.

Provided that the goodness of fit criteria are validated as per H2, the GWS variable is viable for inclusion as the criterion variable in the planned HMRA/MLM analyses. Secondly, validation of the internal reliability of the GWS variable by demonstrated a sufficient alpha statistic will reinforce the variable's appropriateness in its analysis inclusion.

Culture-GWS Relationship: The thesis also examines the relationships between employee and organizational culture preferences and the validated GWS outcome variable. As the literature review has shown how specific culture preferences appear to be related to beneficial or detrimental workplace outcomes (see Section 2.3.), the thesis will examine these patterns with specific regard to the OCAI (Cameron & Quinn, 1999, 2006).

Due to the generally positive relationships presented in the literature review between culture aspects typical of the Clan culture, and negative linkages for Hierarchy culture preferences, the following hypotheses are proposed.

- H 4a)** Individual preferences for Clan culture will positively account for significant unique variance in GWS.
- H 4b)** Perceived organizational preferences for Clan culture will positively account for significant unique variance in GWS.

- H 5a)** Individual preferences for Hierarchy culture will negatively account for significant unique variance in GWS.
- H 5b)** Perceived organizational preferences for Hierarchy culture will negatively account for significant unique variance in GWS.

As the directionality of the linkages between Market culture and the Adhocracy culture with workplace outcomes were less clear in the literature review, the following hypotheses do not specify directionality of association

- H 6a)** Individual preferences for Adhocracy culture will account for significant unique variance in GWS.
- H 6b)** Perceived organizational preferences for Adhocracy culture will account for significant unique variance in GWS.
- H 7a)** Individual preferences for Market culture will account for significant unique variance in GWS.
- H 7b)** Perceived organizational preferences for Market culture will account for significant unique variance in GWS.

Inter-Organizational Effects: A final question related to the assessment of the link between culture and outcomes concerns the influence of cross-organizational variability during data gathering. As differences between workplaces have the possibility of causing Type I errors during the investigation of significant culture predictors (Heck, Thomas, & Tabata, 2010), my study will examine whether this is a valid methodological concern. Comparisons between standard regression analyses (HMRA) and equivalent multilevel modelling (MLM) analyses will be used to fulfil this aspect of the research objective. In doing so, generalizable trends in culture preferences influencing workplace outcomes may be deduced. Examining these questions regarding between-organizational differences has consequences for the interpretation of results from studies that have not accounted for between-organizational variances.

These issues will be addressed using the following hypotheses:

- H 8)** The MLM analyses will indicate a significant influence of between-organizational variability on the GWS criterion variable.
- H 9)** Significant culture indicators in the HMRA will become non-significant indicators during the equivalent MLM analyses.

If H8 is validated, this may not necessarily reduce the effectiveness of the culture indicators in predicting GWS to levels of non-significance. However, should a regression-derived significant culture indicator become non-significant in the equivalent analysis that takes

workplace differences in GWS into consideration, this would represent direct evidence of a spurious relationship between culture and workplace outcomes.

6.3. Objective Two: Values Structure and Workplace Outcomes.

6.3.1 Overview. The second objective of my research is to examine the factor structure of Finegan's (2000) four factor values model and its relationship with workplace outcomes. Therefore Objective Two can be summarised as:

O 2a) To validate Finegan's (2000) four factor model as statistically adequate.

O 2b) To demonstrate relationships between values factors and workplace satisfaction.

6.3.2. Objective Two Rationale and Research Hypotheses

Four Factor Values Model: As addressed in Section 3.2.2., differences in the number of factors extracted in Finegan's (2000) model in comparison to the follow-up study of Abbott et al. (2005) requires further examination. Values are able to be conceptualized as a series of higher-order factors(see Section 3.2.1.). The key problem with Finegan's four factor conceptualization of values is the inconsistent factor structure it possesses, as evidenced by Abbott et al.'s (2005) follow-up study. Abbott et al. presented a three factor model when attempting to replicate Finegan's previous four factor model. Therefore, the items used in Finegan's model may not reliably conform to the four factors of Humanitarian, Vision, Adherence to Convention, and Bottom-Line Oriented values as originally specified. However, as there is a similarity between the four overarching goals of Schwartz and Bardi's (2001) values model, and the themes expressed in Finegan's original model, by selecting thematically consistent indicators from Schwartz and Bardi's 10 factor values measure to strengthen the formulation of the four values factors intended by Finegan's model, a methodological adjustment for model stability may be possible. Hence examining whether there is evidence to substantiate Finegan's four factor model of values is a goal of the second objective.

The validation of Finegan's (2000) four factor values model is valuable due to its conceptual cross-validity with Cameron and Quinn's (1999, 2006) OCAI. Finegan's four values are thematically similar to that of the four culture factors presented in the OCAI (Cameron & Quinn). Section 2.2.5. has previously addressed the manner in which the OCAI underlies the importance of values in influencing organizational culture, such that root values influence the observable culture phenomena present in the workplace. Consequently the similar configurations of both models may not be coincidental, due to this conceptual bridging between values and observable culture facets such as processes. This is further corroborated with Schein's (1990) interpretation of culture as an 'onion-layered'

model, wherein values underlie certain facets of culture. As a result, it is important to note that Finegan's model may represent a transparent thematic link to the higher-order culture factors of Cameron and Quinn's OCAI. The Humanitarian, Vision, Adherence to Convention, and Bottom-Line Oriented values factors may be underlying the Clan, Adhocracy, Hierarchy, and Market culture factors as a result.

Confirmation of the item-factor consistency at both the individual and perceived organizational preferences levels is also addressed as part of the second objective. As highlighted for the OCAI previously, confirmatory factor analysis validation of the Four Factor Values Model's (FFVM) structure has been limited for both individual and perceived organizational levels. Finegan's (2000) principal components analysis that was used to derive the original four factor solution was not directly specified as being based on individual or organizational preferences data. Abbott et al. (2005) used confirmatory factor analysis to validate their three factor values model at the individual and organizational levels, however this was in response to the previous failure to validate the FFVM via confirmatory factor analysis. Therefore, evidence for the FFVM's validation at the individual and organizational levels has not been presented to my knowledge. Providing this validation is important in addressing of the second study objective, as it allows for further investigation of the nature of values and their influence on workplace satisfaction.

The following hypotheses will be tested to assess Finegan's Four Factor Values Model:

H 10a) The item-factor structure for the FFVM (Finegan, 2000) for the employee preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.

H 10b) The item-factor structure for the FFVM (Finegan, 2000) for the perceived organizational preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.

Values-GWS Relationship: To address the second part of Objective Two, my research will examine the relationship between the values factors and workplace outcomes. The utility of the preferences for specific values factors is tied to their ability to predict workplace outcomes. Preferences for particular types of values are associated with workplace outcomes as outlined in the literature review (see Section 3.3.). I inspect the specific direction and significance of the preferences for the Humanitarian, Vision, Adherence to Convention, and Bottom-Line Oriented values factors with regard to workplace outcomes. This is important, as information regarding the specific effects of these values factors on workplace outcomes has thus far been limited.

This investigation is conducted at both the individual and perceived organizational preferences levels, to examine whether there are variations in the manner in which values influence workplace outcomes on the basis of perspective. As preferences for organizational values have been discussed more thoroughly than the individual level links with workplace outcomes, it is unclear whether both perspectives have parallel linkages with workplace outcomes. Therefore it is an important facet of the values-outcome link to question whether it remains consistent at both the individual and organizational levels.

The following hypotheses test the relationship between Values factors and GWS at individual and organizational levels.

- H 11a)** Individual preferences for Humanitarian values will positively account for significant unique variance in GWS.
- H 11b)** Perceived organizational preferences for Humanitarian values will positively account for significant unique variance in GWS.
- H 12a)** Individual preferences for Vision values will positively account for significant unique variance in GWS.
- H 12b)** Perceived organizational preferences for Vision values will positively account for significant unique variance in GWS.

Hypotheses 11a through 12b are based on the positive associations between the listed values factors and organizational commitment, as per the studies of Finegan (2000) and Abbott et al. (2005). As findings specifically related to the forms of values assessed in the FFVM and their links to workplace outcomes are limited, inferences regarding the directionality of the remaining two values factors were less clear. Therefore the Adherence to Convention and Bottom-Line Oriented values preferences hypotheses were specified as non-directional.

- H 13a)** Individual preferences for Adherence to Convention values will account for significant unique variance in GWS.
- H 13b)** Perceived organizational preferences for Adherence to Convention values will account for significant unique variance in GWS.
- H 14a)** Individual preferences for Bottom-Line Oriented values will account for significant unique variance in GWS.
- H 14b)** Perceived organizational preferences for Bottom-Line Oriented values will account for significant unique variance in GWS.

Inter-Organizational Effects: My research also examines whether the variability in organizations is a significant influence on Generalised Workplace Satisfaction (GWS), and the effect this has on the values-outcomes relationships. This is an important area of

consideration, as Abbott et al. (2005) indicated that the two organizations they sampled were different in their levels of organizational commitment, therefore between organization variations in GWS may be influential on the values-outcomes links assessed here. This research question is important due to its consideration of the possibility of spurious values-outcomes relationships, which thus far has only been accounted for by Abbott et al. to the author's knowledge. Therefore it is important to assess between-organizational interference, in addition to addressing the values-outcomes links.

The following hypothesis tests this effect.

H 15) Significant values indicators in the HMRA's will become non-significant indicators during the equivalent MLM analyses.

Specifically H15 assesses whether the drop-off in explained variance for significant values predictors derived from Hypotheses 11a through 14b is large enough to demote the variable as a non-significant indicator. If H15 is rejected for any of the significant indicators in the aforementioned hypotheses, then this provides evidence for spurious values-outcomes relationships derived via regression techniques. Additionally this would present evidence for Type I errors, which may be inflating the importance of values-outcomes associations previously presented in the literature review (see Section 3.3.).

6.4. Objective Three: Values/Culture Congruence and Workplace Outcomes.

6.4.1. Overview

The third objective is to examine the values/culture preferences of employees and evidence of congruence with employees' perceptions of the values/culture of their organizations. Objective Three will therefore examine if:

- O 3a)** Congruence between values and culture factors will be evident.
- O 3b)** Congruence between values and culture factors influences workplace satisfaction.

6.4.2. Rationale and Research Hypotheses

Values/Culture Congruence: As noted previously in the review of Schneider's (1987) Attraction Selection Attrition model in Section 4.1.2., employees are expected to be similar in terms of values and culture preferences to their employing organization. Values and processes (practices/means of work) within an organization should be a suitable grounds for congruence due to their entwined conceptualization within organizational culture (Hofstede, 1998; Hofstede, et al., 1990). The four factor values model of Finegan (2000) and culture model of Cameron and Quinn (1999, 2006) bear factor overlaps concordant with the ASA prediction. Schein (1990, 1993) and Hofstede (1998; Hofstede, et al., 1990) have previously presented models of culture that placed values within the nested

series of culture indicators. The degree of overlap in this instance between the FFVM and the CVF appears to be substantial, and this is arguably reflective of the parallel nature of the values and culture factors presented in each model. As Schein predicted that values are buried beneath the visible indicators of culture such as behaviours, uniforms, building design, and other visual artefacts indicative of culture, it follows that values are likely to retain a degree of consistency within the framework of culture of which they are a part. As addressed in the literature review, Humanitarian values and the Clan culture share underlying similarities (see Sections 3.2.2. and 2.2.5., respectively). Vision values and the Adhocracy culture also appear to be aligned. Similarly, Adherence to Convention values appear to be an underlying agent in the Hierarchy culture. Lastly there appears to be an association between the description of the Bottom-Line Oriented values factor, and the Market culture factor of the CVF. These conceptual overlaps between the values and culture indicators are presented in Figure 6.

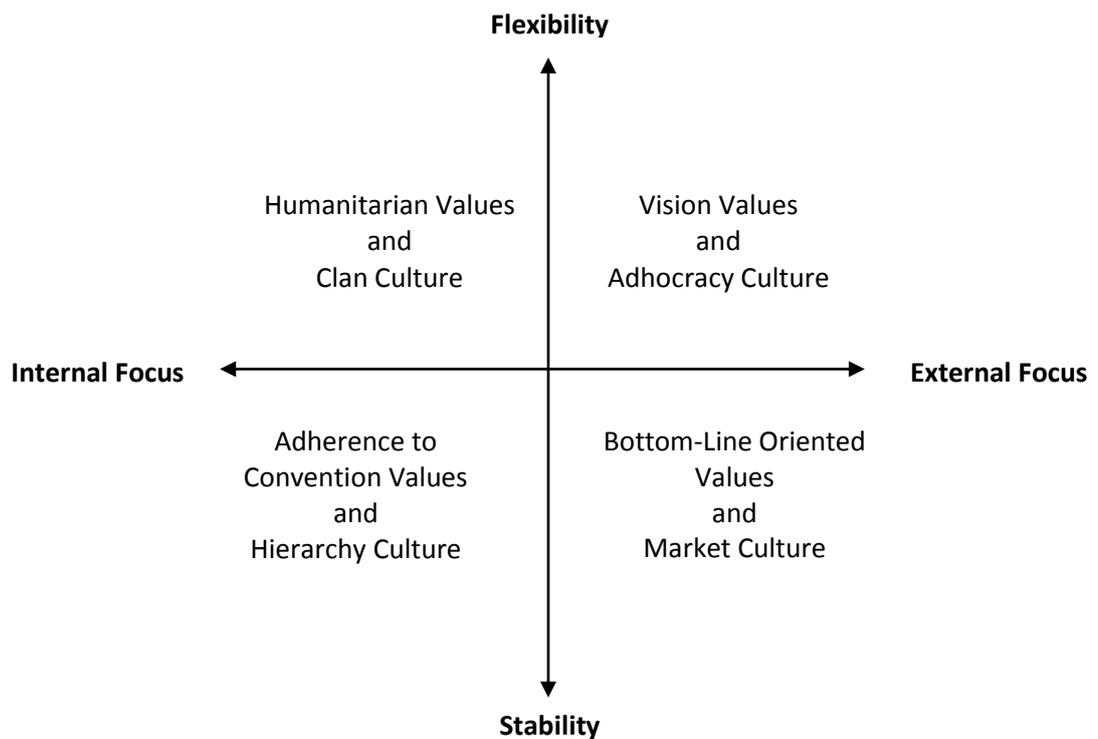


Figure 6. Proposed overlap between values indicators of the FFVM (Finegan, 2000) and the CVF (Cameron & Quinn, 1999, 2006).

On the basis of these conceptual overlaps between the models of Finegan (2000) and Cameron and Quinn (1999, 2006), the degree of overlap these models possess is investigated as part of addressing the third objective. Several outcomes may occur when examining these associations. For example, if Finegan's (2000) values factors are latent factors within the broader culture factors of Cameron and Quinn, then couplings of

associated factors may demonstrate good model fit. Binary systems of Humanitarian values and Clan culture factors, and Vision values and Adhocracy culture factors, may emerge in this regard. Alternatively the values factors may load onto a single underlying factor, and the culture factors may load onto another underlying factor. This is also plausible due to the degree of abstraction that separates values and culture measurement, as previously addressed in the literature review. As values are buried deeper within the factor of culture than visual indicators [artefacts, uniforms, processes of conducting work] (Hofstede, et al., 1990; Schein, 1990), the disconnect between the two series of constructs may contribute to this factor splitting. As all factors are representative of the broader conceptualization of culture itself, there is additionally the possibility of all factors loading onto one underlying factor. This underlying factor may be representative of organizational culture from a macro perspective. Due to Finegan's (2000) exploratory factor analysis producing four interpretable values factors, and the CVF being validated via multidimensional scaling (Cameron & Quinn, 1999, 2006), this last possibility is more tenuous than the previous two. In summary, examination of the possible ties between values and culture factors is examined as part of the assessment of the third study objective.

The following hypotheses test values/culture congruence :

- H 16a)** Preferences from the individual's perspective for the values and culture factors will demonstrate good model fit criteria.
- H 16b)** A theoretically justifiable model relative to H16a can be extracted.
- H 17a)** Preferences from the perceived organizational preferences data for the values and culture factors will demonstrate adequate model fit criteria.
- H 17b)** The model extracted relative to H17a will be interpretable in a theoretically justifiable manner.

Congruence-GWS relationships: The importance of P-O fit research has been presented in the literature review (see Section 4.1.), and much of the research on values influencing organizational outcomes is tied to P-O fit studies (see Section 4.3.). Schneider's (1987) Attraction Selection Attrition (ASA) model is frequently referred to with regards to P-O fit studies. The ASA model states that congruence between individuals and the organization influences the process of their initial attraction to the organization, their hiring by the organization, and their departure from the organization. While previous studies have validated the model in terms of values congruence and goal congruence (Hoffman & Woehr, 2006; Kristof-Brown, et al., 2005; Verquer, et al., 2003), I aim to apply the linked values/culture factors to assess congruence. If the individual's values preferences are used as the basis for comparison against the organization's culture preferences, then it provides

a basis of application for the ASA model. In the initial Attraction process, it is probable that individuals may compare an organization's culture against what they perceive to be their values prior to applying. If they judge their values as compatible with what the organizational culture is perceived to represent, then it is likely that the individual will be attracted to the organization as per the ASA model. Secondly, the types of values that the prospective employee demonstrates or states during the application process may be used as a basis by the prospective employer to judge compatibility. Selection may therefore occur when the individual's values are considered by the organization to be congruent with their culture. The third step of the ASA process also has appropriate theoretical links with the individual's values preferences and the organization's culture preferences. If the individual comes to an understanding that their values are not represented adequately by the organization, they may leave. The basis of this comparison ties to the individual's values and the organization's culture. Further investigation of this relationship between individual values and organizational culture preferences is therefore a key aspect of the third objective. The aforementioned congruencies, as in previous studies involving personality and goal congruence (see Section 4.3.), may have an influence on workplace outcomes. This is an important question, as values-culture congruence is based on the assumption that Finegan's (2000) factors are representative of an abstraction of Cameron and Quinn's (2006) factors. If neither method can demonstrate congruence influencing workplace outcomes, then the links between both models will be less substantial.

A final aspect of the examination of objective three examines methodological variations in calculating the values-culture congruence influence on workplace outcomes by monitoring the effect of varying congruence conceptualization formats. Similar to the assessment of spurious relationships outlined as part of objectives one and two, the third objective examines the possibility of spurious congruence findings due to difference score assessment (see Sections 4.2.3. and 4.2.4.). Firstly examination of the linear difference scores between individual values and linked organizational culture predictors will be conducted to assess evidence for linear congruence influencing workplace satisfaction. This assessment presents an analysis of congruence in the vein of the Organizational Culture Profile (O'Reilly, et al., 1991). In doing so it provides the basis of methodological comparison with that of the polynomial regression methodology previously presented in the literature review (Edwards, 1993, 1994; Edwards & Cooper, 1990). Edwards' methodology allows the use of linear and non-linear congruence testing to explain GWS variability. Therefore in addition to the previous examination of difference scores significantly accounting for variability in GWS, a secondary goal involves testing whether

polynomial regression can also significantly account for the variance in GWS as part of this testing. Consequently my study examines whether polynomial regression provides a more valid assessment of the values-culture congruence effect on GWS in comparison to the difference scores methodology. The influence of values-congruence on workplace satisfaction as previously presented by the third objective is therefore examined by the aforementioned goals.

The following hypothesis tests the Congruence-GWS relationship and the methodological differences used to assess congruence.

- H 18)** Difference scores will be significant indicators of workplace outcomes.
- H 19a)** Polynomial regression for Humanitarian values / Clan culture congruence will indicate a significant unique amount of variance in GWS is jointly accounted for by the predictors.
- H 19b)** Polynomial regression for Vision values / Adhocracy culture congruence will indicate a significant unique amount of variance in GWS is jointly accounted for by the predictors.
- H 19c)** Polynomial regression for Adherence to Convention values / Hierarchy culture congruence will indicate a significant unique amount of variance in GWS is jointly accounted for by the predictors.
- H 19d)** Polynomial regression for Bottom-Line Oriented values / Market culture congruence will indicate a significant unique amount of variance in GWS is jointly accounted for by the predictors.

Hypotheses 18 through 19d will assess whether values-culture congruence has a significant impact on explaining the variability in workplace outcomes. As congruence findings between the difference scores are likely in light of the meta analytic congruence findings of Kristof-Brown et al. (2005) and others, H18 predicts a significant congruence effect in this regard. Due to the lack of prior information regarding the values-culture congruencies tested here, the directionality of these predictions is difficult to infer. Therefore these hypotheses are proposed without coefficient directions predicted prior to testing. Secondly, the polynomial regression congruence testing should corroborate the importance of congruence influencing workplace outcomes. Each of the values-culture congruence pairs tested in a linear and non-linear manner should significantly account for a proportion of the variability in GWS, due to the improved scope of variance captured by polynomial regression (Edwards, 1993, 1994).

Based on the non-linear congruence accounted for by polynomial regression, and its unconstrained coefficient parameters as outlined by Edwards (1993, 1994; Edwards &

Cooper, 1990) in the literature review, it is expected that the polynomial regressions will provide a better account of congruence influences on workplace outcomes.

The final hypothesis regarding the congruence testing is as follows:

- H 20)** Any significant difference scores congruence predictor should explain less of the variability in GWS compared to the parallel polynomial regression tested equivalent.

As specified previously, difference scores have implied constraints on their coefficients when accounting for the variance in the criterion variable (Edwards, 1993, 1994; Edwards & Cooper, 1990). As polynomial regression removes these coefficient constraints, these models should explain more variance in GWS in comparison to difference scores. This will be examined by H20.

6.5. Objective Four: Values/Culture Differences and Workplace Outcomes.

6.5.1 Overview

The fourth and final objective of my research is to examine whether there is any additional merit to involving indicators of culture beyond that of values, due to the values/culture synonymy issue previously outlined.

- O 4)** Examination of additional variance explained by culture (practices) in light of the variance already explained by the values predictors with regards to workplace satisfaction.

6.5.2. Rationale and Research Questions

The final research objective assesses whether the values and culture predictors are equivalent with regards to predicting workplace outcomes. The values-centric interpretation of culture prominent in the organizational culture literature (O'Reilly, et al., 1991) may not represent a sufficient degree of conceptual depth (see Section 5.1.). Additionally, the swapping of a values-centric measure between its root purpose of values measurement and its intended purpose of culture measurement was concerning (see Section 5.1.1.). The fourth objective involves the investigation of whether values are sufficiently synonymous with culture as has been inferred by some culture research, despite being buried at a deeper level in the models of Schein (Schein, 1990, 1993) and Hofstede (1998; Hofstede, et al., 1990).

The differences in accounted variance between Cameron and Quinn's (1999, 2006) holistic interpretation of culture in comparison to values alone will be assessed. Cameron and Quinn's OCAI is not values-centric, but instead represents the practices, processes, and other behavioural manifestations of culture within the organization. The role of values within the OCAI are as 'core values', and work at a less overt level in forming and

maintaining the more salient aspects of the organizational culture (see Section 2.2.5.).

Therefore, the values-centric interpretation of culture places values at the forefront, while the holistic interpretation of culture places values at a more abstracted level, with overt indicators of culture (processes, practices) being assessed by the measurement tool.

Therefore whether values can explain as much of the variability in workplace satisfaction in comparison to a holistic interpretation of culture will be assessed. Should values be unable to explain as much variability, this may indicate that the values-centric interpretation does not adequately represent the content validity of the construct of organizational culture.

The coefficient direction consistency among thematically linked values and culture factor pairs that are significant predictors of workplace outcomes will also be assessed. While the differences between the explanatory adequacy of values and holistic culture form the major focus of this research objective, significant predictors should share identical coefficient directions as per Figure 6. Therefore if the Humanitarian values predictor and Clan culture predictor are both significant indicators of workplace satisfaction, both predictors should share identical coefficients directions. In doing so, this will validate the linkages between the values and culture factors.

The first testable hypotheses for the fourth objective are:

H 21a) Values predictors will become non-significant after entry of the culture predictors in the following block during HMRA / MLM analysis for individual preferences data.

H 21b) Values predictors will become non-significant after entry of the culture predictors in the following block during HMRA / MLM analysis for the perceived organizational preferences data.

Due to the greater breadth of concept covered by the holistic interpretation of culture, I expect it to subsume the predictor importance of the values factors after the entry of the culture predictors. Hofstede (1998) previously indicated that procedural differences were the greater influence on workplace outcomes instead of values differences between organizations within the same nation. As the participant sample proposed to be used in my research will consist entirely of Australians, it is likely that the holistic culture factors will be more influential than their values counterparts. Therefore, in both H 21a and H21b, I expect the values factors to have their predictive importance subsumed by the holistic culture factors.

Secondly, as a means of controlling for spurious relationships between the full values and culture models being tested, the following hypotheses will be tested:

H 22a) Significant values and culture predictors of workplace outcomes will become non-significant predictors after accounting for between-organizational variability in the criterion variable, when employing the individual preferences data.

H 22b) Significant values and culture predictors of workplace outcomes will become non-significant predictors after accounting for between-organizational variability in the criterion variable, when employing the perceived organizational preferences data.

As with the previous analyses, the joint examination of values and culture predictors requires between-organizational differences to be accounted for. As between-organizational differences are likely to influence the variability of the criterion variable (as tested in H8), assessments of values/culture subsumption accordingly include this source of variability. Hypotheses 22a and 22b infer that, should the criterion be significantly influenced by between-organizational variations, the significant predictors will remain significant. Should these hypotheses be invalidated, it may present evidence for spurious linkages between values/culture predictors and workplace outcomes. As a result, it would further reinforce the possibility of Type I errors when examining values/culture effects via regression techniques, as was identified in the literature review.

If, as Figure 6 presents, there is an overlay of both models, then the linked values/culture factors should bear identical coefficient directions. If opposite coefficients were observed, this would weaken the predicted linkages between the values/culture factors previously suggested.

H 23) Significant and thematically linked values and culture predictors, provided that they are both linear or non-linear terms, will bear the same coefficient directions.

Hypothesis 23 expands upon the overlay of values and culture factors expressed in Figure 6. Therefore, during the HMRA and MLM analyses conducted as part of Hypotheses 21a through 22b, significant linked values/culture predictors should be parallel in their coefficient directions.

6.6. Summary of Research Objectives and Hypotheses.

This chapter has outlined the main aims of the thesis: to examine the model structure of culture and values, and their relationships with workplace outcomes. These aims will be examined through four objectives. The chapter identified testable hypotheses arising from each research objective. Table 4 provides an overall summary of the four objectives and their associated hypotheses.

Table 4.

Summary of Study Objectives and Hypotheses.

Objective		Hypothesis	
1a	Validation of the OCAI as a statistically adequate model of culture.	1a	The item-factor structure for the OCAI (Cameron & Quinn, 1999, 2006) for the employee preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.
		1b	The item-factor structure for the OCAI (Cameron & Quinn) for the perceived organizational preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.
1b	Demonstration of anticipated relationships between culture factors and workplace satisfaction.	2	Job Satisfaction, Organizational Commitment, and Turnover Intention will all load with adequate model fit on a single factor to indicate their unidimensionality.
		3	The unidimensional Generalised Workplace Satisfaction variable will produce a calculated Cronbach's (1951) alpha statistic in excess of .70.
		4a	Individual preferences for Clan culture will positively account for significant unique variance in GWS.
		4b	Perceived organizational preferences for Clan culture will positively account for significant unique variance in GWS.
		5a	Individual preferences for Hierarchy culture will negatively account for significant unique variance in GWS.
		5b	Perceived organizational preferences for Hierarchy culture will negatively account for significant unique variance in GWS.
		6a	Individual preferences for Adhocracy culture will account for significant unique variance in GWS.
		6b	Perceived organizational preferences for Adhocracy culture will account for significant unique variance in GWS.
		7a	Individual preferences for Market culture will account for significant unique variance in GWS.
		7b	Perceived organizational preferences for Market culture will account for significant unique variance in GWS.
8		8	The MLM analyses will indicate significant influence of between-organizational variability on the GWS criterion variable.

		9	Significant culture indicators in the HMRA will become non-significant indicators during the equivalent MLM analyses.
2a	Validation of Finegan's (2000) four factor model as statistically adequate.	10a	The item-factor structure for the FFVM (Finegan, 2000) for the employee preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.
		10b	The item-factor structure for the FFVM (Finegan, 2000) for the perceived organizational preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.
2b	Demonstration of relationships between values factors and workplace satisfaction.	11a	Individual preferences for Humanitarian values will positively account for significant unique variance in GWS.
		11b	Perceived organizational preferences for Humanitarian values will positively account for significant unique variance in GWS.
		12a	Individual preferences for Vision values will positively account for significant unique variance in GWS.
		12b	Perceived organizational preferences for Vision values will positively account for significant unique variance in GWS.
		13a	Individual preferences for Adherence to Convention values will account for significant unique variance in GWS.
		13b	Perceived organizational preferences for Adherence to Convention values will account for significant unique variance in GWS.
		14a	Individual preferences for Bottom-Line Oriented values will account for significant unique variance in GWS.
		14b	Perceived organizational preferences for Bottom-Line Oriented values will account for significant unique variance in GWS.
			As above
		15	Significant values indicators in the HMRA will become non-significant indicators during the equivalent MLM analyses.
3a	Congruence between values and culture factors will be evident.	16a	Preferences from the individual's perspective for the values and culture factors will demonstrate adequate model fit criteria.
		16b	A theoretically justifiable model relative to H16a can be extracted.

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		17a	Preferences from the perceived organizational preferences data for the values and culture factors will demonstrate adequate model fit criteria.
		17b	The model extracted relative to H17a will be interpretable in a manner theoretically justifiable.
3b	Congruence between values and culture factors will influence workplace satisfaction.	18	Difference scores will be significant indicators of workplace outcomes.
		19a	Polynomial regression for Humanitarian values / Clan culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.
		19b	Polynomial regression for Vision values / Adhocracy culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.
		19c	Polynomial regression for Adherence to Convention values / Hierarchy culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.
		19d	Polynomial regression for Bottom-Line Oriented values / Market culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.
		20	Any significant difference scores congruence predictor should explain less of the variability in GWS compared to the parallel polynomial regression tested equivalent.
4	Examination of additional variance explained by culture (practices) in light of the variance already explained by the values predictors with regards to workplace satisfaction.	21a	Values predictors will become non-significant after entry of the culture predictors in the following block during HMRA / MLM analysis for individual preferences data.
		21b	Values predictors will become non-significant after entry of the culture predictors in the following block during HMRA / MLM analysis for the perceived organizational preferences data.
		22a	Significant values and culture predictors of workplace outcomes will become non-significant predictors after accounting for between-organizational variability in the criterion variable, when employing the individual preferences data.
		22b	Significant values and culture predictors of workplace outcomes will become non-significant predictors after accounting for between-organizational variability in the criterion variable, when employing the perceived organizational preferences data.

- 23 Significant and thematically linked values and culture predictors, provided that they are both linear or non-linear terms, will bear the same coefficient directions.
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CHAPTER 7: METHODOLOGY

The following chapter presents the methodology of my study. In addition to the overall design and information regarding the participants used in my study, this chapter also describes the measures and analysis methods used to test each of the hypotheses outlined in Chapter Six.

7.1. Design

My research objectives were assessed using a single, cross-sectional study with organizational participant data gathered via an online survey. The cross-sectional design was chosen due to the time available for data collection, which did not permit longitudinal organizational assessment. For the first objective, the key variables were the OCAI (Cameron & Quinn, 1999, 2006) and a measure of Generalised Workplace Satisfaction (GWS) comprised of Job Satisfaction, Turnover Intention, and Organizational Commitment (Affective, Normative, and Continuance). For the second objective, the key variables were Finegan's (2000) four factor values model and GWS. The third and fourth objectives used both values and culture factors as key variables with objective four also using GWS as the criterion variable.

7.2. Participants

7.2.1. Ethics Approval. Prior to participant sampling, the study received ethics approval by Curtin University's Human Research Ethics Committee (Reference number HR63/2008). The ethics approval established that the research conducted would allow participants to have informed consent prior to the participation in research, that the risk of harm was minimised where applicable, and that privacy and confidentiality of participant data was observed.

7.2.2. Participant Characteristics. A sample of participants from organizational sources was gathered. Organizations were approached on the basis of being representative of the breadth of culture/values factors discussed in the literature review. Of the approached organizations, a private healthcare provider and 10 local government bodies agreed to participate in my study. Participants were local government or private health employees, with 327 participants (Male $N = 102$, Female $N = 225$) in total. Forty two participants were sourced from private healthcare, while the remaining 286 employees were participants from local government. The percentage of participants from each sampled organization are presented in Table 5.

Table 5.
Participant Frequencies and Sample Proportions from Each Sampled Organization (N = 328).

Organization ^a	Participant N	Total Sample Percentage
Private Health Care Provider	42	12.8
Local Government 1	12	3.7
Local Government 2	22	6.7
Local Government 3	11	3.4
Local Government 4	53	16.2
Local Government 5 ^b	1	.3
Local Government 6	33	10.1
Local Government 7	36	11.0
Local Government 8	43	13.1
Local Government 9	21	6.4
Local Government 10	54	16.5

Notes. ^a Organization identification withheld to protect confidentiality, ^b Due to the single response from this organization, this participant is removed from analyses where between-organizational variability is taken into account (Heck, et al., 2010).

Means and standard deviations of the demographic variables Age, and Occupational and Organizational Tenure, are presented in Table 6.

Table 6.
Means and Standard Deviations of Demographic Statistics Pertaining to the Analysed Sample (N = 328).

	Age	Occupational Tenure	Organizational Tenure
<i>M</i>	39.79	11.00	4.21
<i>SD</i>	12.57	11.26	6.90

Note. All figures are reported in years.

7.2.3. Sample Size and Power. For the CFAs, a sample of at least 205 to 410 (5 to 10 times the amount of variables entered in the model) participants were required to conduct CFA without risking an underpowered analysis on the values models (MacCallum, Browne, & Sugawara, 1996). As a result, the sample of 328 is prospectively underpowered when assessing the values models due to their larger indicator base. However as Finegan (2000) extracted his four factor values model with a smaller sample size, the current sample should be adequate unless small effect sizes are present within the model. The culture CFA was less problematic in this regard, as the 328 participant base of this sample was larger than the 150 - 300 (5V - 10V) required for adequate power. Kline (2005) recommends a 10:1 ratio of cases to free parameters in a model is a realistic goal for adequate sample size. Given that there are 26 free parameters in the upcoming models being tested as part of confirmatory factor analysis, the sample size was considered adequate by Kline's standards (328 > 260). Determining the sample sizes for HMRA and MLM analyses is generally

conducted on a ratio of 20 to 40 times the amount of cases to entered predictors ratio (Tabachnick and Fidell, 2007; Thorndike, 1976; Stevens, 1992). As the largest model tested in either HMRA or MLM involved eight predictors variables (thereby requiring 320 cases for adequate power based on the upper level of the ratio presented previously), the main sample was considered adequate for testing.

7.3. Measures

7.3.1. Justification for Online Survey. I used an online survey instead of a more traditional pen and paper survey. Davidov and Depner (2011) have presented evidence for invariance in hardcopy versus electronic measurement tools during the measurement of values. Buchanan and Smith (1999) found greater accuracy in online survey derived data, suggesting that participants may be more honest when using online surveys compared to hardcopy versions. Similar findings were observed by Preckel and Thiemann (2003) with intelligence tests. On-line data gathering also has the advantage of removing data entry errors. Prior to use with the organizational sample described above, a pilot test of the survey was conducted to assess its accessibility and clarity. The results are presented in Appendix D.

7.3.2. Culture. The four archetypical profiles of organizational culture as derived from the CVF was measured using the 24 item Organizational Culture Assessment Instrument [OCAI] (Cameron & Quinn, 1999). Participants were asked to respond using a 5 point Likert scale (1 = strongly disagree, 5 = strongly agree) whether the statement reflected their organization. This change to the usual response format for the OCAI (in which participants distribute 100 points between 4 statements to indicate organizational relevance) was used to accommodate the on-line testing format. The validity of the OCAI will be tested as part of the first stage of the analyses and this will help to identify if this response format change altered the underlying factor structure of the OCAI.

Participants were asked to score "Current organizational practices" beneath each statement in the OCAI, reflecting Hofstede's (1998) assumption that procedures and practices are a major antecedent of culture within the same nation. Individual preferences were obtained by asking participants to score "Your ideal organizational practices" directly beneath the organizational preferences scale. An example item from the Clan scale is "The organization is a very personal place. It is like an extended family. People seem to share a lot of themselves". An example item from the Adhocracy scale is "The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks". An example item from the Hierarchy scale is "The organization is a very controlled and structured place. Formal procedures generally govern what people do". An example

item from the Market scale is "The organization is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement-oriented". Notably, the OCAI appeared to ask participants to respond to multi-barrelled questions, however no difficulties in understanding what was required of the participants was noted during the online survey pilot study described in Appendix D. Scale reliability from the original measure has been demonstrated as sufficient, with coefficient α ranging from .71 to .80 (Cameron & Quinn). Reliabilities and validities of the rescaling of the measurement will be examined as part of the upcoming CFA and scale reliability analyses. Validity has been demonstrated in terms of identified culture and the antecedents of organizational effectiveness, such as the strategies, decision making, and organizational structures congruent with the identified culture (Cameron & Quinn).

7.3.3. Values. 37 items derived from Schwartz and Bardi's (2001) values scale that complied with the hypothetical constructs of Humanitarian, Vision, Adherence to Convention, and Bottom-Line Oriented values were used to measure values in this study. These Schwartz and Bardi's items were used in preference to McDonald and Gandz's (1991) values taxonomy scale due to the inconsistent factor and item structure of scale observed between Abbott et al and Finegan's studies. While the configuration of item-factor loadings was data-driven in Finegan's (2000) study, the 37 chosen items for the current study were included on the basis of their representation of the thematic content of Finegan's four factors, thereby grounding the item choice with theory. Example items from each factor are presented in Figure 7. Preferences were measured using a five point Likert-style scale, (1 = "Very Unimportant", 5 = "Very Important"). Individual values preferences were measured with the statement "Important to you" adjacent to the aforementioned scale, which appeared under the value being assessed. Perceived organizational preferences were measured using the statement "Important to your organization", directly beneath the individual preferences prompt and scale. Schwartz and Bardi's original measure assessed the importance of 56 values, behaviours, and goals conducive to Rokeach's (1973) values duality, within 10 categories, such as power, benevolence, and tradition. Several of Schwartz and Bardi's values categories were included in the values measurement of this study, presented with reference to their relevance towards Finegan's values factors in Figure 7. For the categories pertinent to my study, coefficient α for Benevolence was .76, Universalism was .80, Self-direction was .69, Stimulation was .77, Achievement was .76, Power was .71, and Conformity was .72 (Fields, 2002). As part of a large multinational examination, Schwartz demonstrated that in 84% of cases all value categories demonstrated distinctiveness or mutual overlap with predicted adjacent

categories. Additionally, 84% of the items demonstrated meaning consistency in 83% of recorded cases. Item-factor configuration adequacy and reliability indices will be calculated as part of this study to confirm the viability of this use of the scale items.

Benevolence items	Helpful Honest Forgiving Loyal Responsible A spiritual life Meaning in life	Self-Direction items	Creativity Choosing own goals Curious Freedom Independent
Universalism items	Wisdom Social justice Equality Broad-minded	Stimulation items	Daring An exciting life A varied life
Conformity items	Politeness Obedient Honouring elders Self-discipline	Achievement items	Successful Capable Ambitious Influential Intelligent
Tradition items	Devout Humble Moderate Respect for tradition	Power items	Social power Authority Wealth Preserving public image Social Recognition

Figure 7. Item-factor configuration for the planned confirmatory factor analyses. Items derived from Schwartz and Bardi (2001).

7.3.4. Job Satisfaction. Job satisfaction was measured using a 15 item instrument originally developed by Warr, Cook, and Wall (1979). This measure of job satisfaction measured global job satisfaction via an intrinsic and extrinsic subscale. Example items assessed for satisfaction include “The physical work conditions” and “Your rate of pay” (Warr, et al.). Items were scored on a seven point Likert-type scale, with a score of 7 indicating “I’m extremely satisfied” and 1 indicating “I’m extremely dissatisfied”. The global scale has previously demonstrated sufficient internal reliability; coefficient α ranged from .80 to .91 across studies (Fields, 2002). In a review of the literature, Fields noted that overall job satisfaction as measured by the scale correlated positively with psychological well-being, pay satisfaction, and perceptions of job control and competence. It also correlated negatively with job control problems and job-based tension, supporting the validity of the measure.

7.3.5. Turnover Intention. Turnover Intention was measured using a three item scale (Jaros, 1997). Participants responded using a five point Likert-style scale (1 = Very

rarely, 5 =Very Often) to statements that describe the probability of their intention to leave their current organization. An example item from the scale is “How often do you think about quitting your organization?”. Adequate scale reliability has been demonstrated, with coefficient α ranging from .81 to .85 (Jaros; Meyer, et al., 1993).

7.3.6. Organizational Commitment. Affective (AC), Normative (NC), and Continuance (CC) Organizational Commitment was examined using the measure derived from Meyer, Allen, and Smith (1993). The scale is a modification of an earlier scale (Allen & Meyer, 1990), and was designed to address several limitations in item redundancy, item clarity, and the replacement of poorly loaded items. An example item from the Affective Commitment scale is “This organization has a great deal of personal meaning for me” (Meyer et al., p. 544). An example item from the Normative Commitment scale is “I would feel guilty if I left my organization now” (Meyer, et al., p. 544). An example item from the Continuance Commitment scale is “It would be very hard for me to leave my organization right now, even if I wanted to” (Meyer, et al., p. 544). The scale had a response range from 1 (Strongly Disagree) to 5 (Strongly Agree). The scales have demonstrated sufficient reliability, $\alpha = .82, .83,$ and $.74$ for AC, NC, and CC, respectively. The discriminant validity between commitment factors has been previously supported by previous studies, as the three factors vary in their relationships with antecedents and correlates such as job satisfaction, employee turnover, and job performance (Irving, Coleman, & Cooper, 1997; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). However, the aforementioned studies have noted that AC and NC are often very similar in their links to organizational outcomes, while CC is notably dissimilar. Whether these differences would be notable in my study's data, thus preventing the combining of commitment scales to create the GWS variable, will be tested in the upcoming analyses (Hypothesis 2). Predicted relationships with organizational outcomes such as job satisfaction have been previously demonstrated for Affective commitment (for a detailed summary see Meyer et al., 2002).

7.3.7. Generalised Workplace Satisfaction. The three previously presented workplace outcome measures of Job Satisfaction, Organizational Commitment, and Turnover Intention have been linked to values and culture indicators in many instances of the literature review (see Sections 2.3., 3.3., and 4.3.). An aggregated measure of Job Satisfaction, Affective/Continuance/Normative Commitment, and Turnover Intention may provide a means of testing a generalised measure of workplace outcomes without the need for multiple analyses, which would inflate Type I error. The measure will be further developed and validated in the analyses that follow.

7.3.8. Demographic Variables. Age, Gender, Organizational Tenure, and Occupational Tenure were measured for prospective inclusion as control variables with regards to GWS. Age and tenure have been previously linked to organizational commitment (Meyer, et al., 1993). Gender has been previously linked to differences in job satisfaction (Kim, Murrmann, & Lee, 2009; Mora & Ferrer-i-Carbonell, 2009). Therefore the aforementioned variables were tested for significant relatedness to GWS prior to their use as control variables.

7.4. Procedure

Following ethics approval by Curtin University's Human Research Ethics Committee (HR63/2008), a pilot survey was conducted to test the online survey's formatting and ease of use. Results are provided in Appendix D.

Potential organizations for the main study were contacted by email and phone call to seek permission to be included in my study. I approached a large number of organizations from across different industry sectors including health, manufacturing, technology and local government (excluding organizations with very small number so employees). 10 of 50 contacted local government organizations agreed to participate (20% participation rate). One private healthcare organization agreed to participate in my study. During initial meetings with interested organizations, organizational representatives were provided with a hardcopy version of the participant information sheet, study flyers and a link to the online questionnaire (see Appendices B, E, and F).

Organizations who agreed to participate distributed my study flyers via internal email to all staff members. A second email distributed one week later, provided the link to the online questionnaire. The online questionnaire presented the required participant information, confidentiality, and survey information. It additionally performed several data filtering functions, blocking access to the questionnaire for participants that did not meet the inclusion criteria for participation (that participants were over 18 and were employed by the organization). Participants were offered the chance to enter a prize draw to win a \$50 Amazon voucher if they completed the survey. To ensure that participant information was not personally identifiable, data for entry into my study's participation prize was collected in a database separate to that of the questionnaire responses. Search engine filtering to hide the questionnaire from search engine robots was applied. Participants were informed that my study would remain available for two weeks. Database information was converted into a data file for statistical processing following my study's closure at each organization. The data sets from each organization were combined to create a complete data file containing the information of all sampled organizations. A prize draw for survey

winners was conducted and the three winners of the gift vouchers advertised within the study briefing were notified.

7.5. Analyses

All analyses will use an alpha level of .05 unless otherwise indicated. The purpose of many of the analyses in this study is to replicate a previously conducted analysis using an alternative method of statistical assessment. Parallel correlation, hierarchical multiple regression analysis, and multi-level modelling analyses are used to examine the same combination of predictor and criterion variables in each instance of their use. As a key purpose of this research is to explore the possibilities of varying statistical results as a function of the sophistication of the analysis method employed, the quantity of analyses is strongly backed by the theoretical issues concerning analysis methodology. Therefore, the quantity of analyses conducted when investigating some of the objectives addressed in this study is a key element of research inquiry itself. I posit that the necessity of the analyses to address the questions raised in the review and rationale justifies their inclusion in the study without the introduction of harshly penalising family-wise error corrections as a consequence.

7.5.1. Analyses Pertaining to Objective One. Confirmatory factor analysis (CFA) will be conducted to validate the model fit criteria of the OCAI (Cameron & Quinn, 1999, 2006). All factors will be allowed to correlate with each other during the model assessment, due to all factors presenting linked but separate facets of organizational culture as a whole. Variables that demonstrated loadings greater than .50 on multiple constructs, or demonstrated insufficient loadings (below .3) on all constructs, are removed from the variable list. The CFA analyses will be repeated for both the individual preference and perceived organizational preference data to assess similarity of model configurations.

Exploratory factor analysis will be used to test whether the outcome variables Job Satisfaction, Turnover Intention, and Organizational Commitment (represented by the Affective, Normative, and Continuance commitment variables) all load on one factor, termed Generalised Workplace Satisfaction (GWS). Provided that all outcome predictors load on one factor, and that this factor has sufficient goodness of fit, the workplace outcome predictors will be averaged to provide an overall indicator of workplace outcomes named GWS. A Cronbach's (1951) alpha $> .70$ will indicate adequate internal reliability of the GWS variable. If GWS demonstrates sufficient fit and reliability, it will then be used as the criterion variable in the following regression and multilevel modelling analyses.

The demographic variables of Age, Gender, Occupational Tenure, and Organizational Tenure will be correlated with GWS. If any of the demographic variables

have significant relatedness with GWS, then these variables will be used as control variables in the regression and multilevel modelling analyses.

Parallel Hierarchical Multiple Regression Analyses (HMRA) and Multi-level Modelling (MLM) analyses will be conducted to assess the impact of culture factor predictors on workplace outcomes (GWS). An alpha of .05 will be used as the basis for assessing statistical significance in all HMRA/MLM analyses. The Clan, Adhocracy, Hierarchy, and Market culture preferences will be entered as predictors in the HMRA and MLM analyses. In the first block, the control variables derived from the significant demographic predictors will be entered. In the second block, the culture predictors will be entered. These analyses will be repeated for both the individual preferences data, and the perceived organizational preferences data, to test for parallel culture-outcomes associations expected at both data perspectives.

Following the HMRA analyses of the culture predictor influences on GWS, equivalent MLM analyses will be conducted with identical predictor block entries. Again, GWS will be used as the criterion variable in these analyses. In doing so, the results derived from the MLM analysis can be applied to the population (Heck, et al., 2010). All participants will be included in the measurement validation phases of testing, however the single participant from Local Government 5 will be excluded from the HMRA/MLM analyses. As the one-participant organization was likely to have unreliable influences on the higher order, between-groups levels and their effects (Heck, et al., 2010), this is a safeguard against spurious results in the MLM analyses.

7.5.2. Analyses Pertaining to Objective Two. The analyses pertaining to the second objective mirror those of the first objective, substituting the OCAI's (Cameron and Quinn, 1999, 2006) items and factors for those of Finegan's (2000) four factor values model. Confirmatory factor analysis will be conducted to assess the model adequacy of the four factor values model. The confirmatory factor analyses will be conducted for both individual and perceived organizational preferences data, to assess for concordant item-factor configurations. All values factors will be allowed to correlate with each other during the model assessment, due to the factors representing specific facets of values in general. Variables that demonstrated loadings greater than .50 on multiple constructs, or demonstrated insufficient loadings (below .3) on all constructs, will be removed from the variable list.

To assess the values-outcomes associations described as part of the second study objective, HMRA and MLM analyses will be conducted on the values predictors' influence on GWS. The HMRA/MLM format used in the values-outcome assessments will mirror that

of the culture-outcomes assessments in Section 7.5.1. The control variables will be entered in the first block of predictors followed by the values predictors (Humanitarian, Vision, Adherence to Convention, Bottom-Line Oriented). This pattern of entered predictors will be repeated for both the individual preferences and the perceived organizational preferences data. Lastly, the MLM analyses replicating the HMRA analyses will be conducted. The MLM analyses use GWS as the criterion variable, and retains the same predictor entry procedure as the previously outlined HMRA analyses.

7.5.3. Analyses Pertaining to Objective Three. Exploratory factor analysis will be conducted using the values and culture factors (eight loaded variables in total). Maximum likelihood extraction will be used as the means of factor extraction. A varimax or oblimin rotation will be used to improve interpretability of the extracted factor structure, depending on the correlations between the extracted factors (Allen & Bennet, 2010). Eigenvalues greater than 1.0, and a visual depiction of the slopes presented in the scree plot, will be assessed to determine the amount of interpretable factors. The exploratory factor analysis will be tested using both the individual preferences and perceived organizational preferences data. In doing so the relatedness of thematically linked values-culture factors will be explored as per the third objective.

To examine the influence of values-culture congruence on workplace satisfaction as part of the third objective, difference scores and polynomial regression will be assessed. Difference scores between the linked values and culture preferences will be calculated. Individual preferences for a values factor will be subtracted from the organizational culture preference for a linked culture factor. Due to the differences in scales, both score series will first be standardised. For ease of interpretability of the correlation coefficient directions, the difference scores will be inverted and converted to absolute values so that larger scores are indicative of greater closeness between individual and organizational scores. Beneficial congruence effects will therefore be indicated via significant positive relationships between the difference scores for each pair and GWS.

Polynomial regression analyses as per Edwards' (1993, 1994) methodology will be conducted following the difference scores testing. Predictors will be centred prior to analysis. The linear components of each values-culture pairing will be entered in the initial block. For example, individual preferences for Humanitarian values and perceived organizational preferences for Clan culture will be entered in the first block. In the second block, the squared terms of each predictor in addition to the interactive term between the predictors will be entered. This method will be repeated for each of the values-culture pairings, creating four polynomial regressions in total. Surface response plots will be

created for each values-culture pairing, providing a visual description of the nature of the congruence influence on workplace outcomes.

7.5.4. Analyses Pertaining to Objective Four. The last set of analyses compare the added input of Cameron and Quinn's (1999, 2006) OCAI culture factors to the four values factors of Finegan (2000) when accounting for the variance in GWS. These analyses address the fourth objective. A HMRA will examine the difference in explained variance for each set of predictors with GWS as the criterion variable. Control variables will be entered in the first block with the four values factors entered in the second block . and the four culture factors entered as predictors in the third block. This process will be repeated for both individual preferences and perceived organizational preferences data. MLM analyses will then be conducted replicating the predictor entry order in the aforementioned HMRA analyses to provide a means of assessing between-organizational variability with regards to the GWS criterion variable.

CHAPTER 8: CULTURE RESULTS

The following chapter presents the results pertaining to the first study objective. The first objective examines the validation of the OCAI (Cameron & Quinn, 1999, 2006), and the relationships between culture factors and workplace satisfaction. Section 8.2. describes the confirmatory factor analyses used to validate the factor structure of the OCAI. Section 8.3. validates the Generalised Workplace Satisfaction criterion variable and general statistical assumptions. The culture-outcomes relationships for individual and perceived organizational preferences culture data are then examined in Section 8.4. The discussion of the results and their relevance to previous findings are presented in Section 8.5.

8.1. Missing Data Analysis

Missing data was replaced via multiple imputation techniques. Out of the 166 items involved in the survey, 158 items had at least one case of missing data. None of the items had missing data in excess of 10%, with the largest quantity of missing data for any item being 8.6%. No evidence of partially completed tests was found beyond these incidents of missing data, arguably due to the absence of a response save feature for the online questionnaire. Little's Missing Completely At Random (MCAR) test was significant, $\chi^2_{(26006, N = 328)} = 26420.66, p = .035$, therefore the data was not MCAR. However, examination of the follow-up t-tests revealed no statistically significant p values after taking into consideration a Bonferroni correction for this test. Therefore the missing data was considered missing at random. Multiple imputation of missing data conducted within LISREL (Version 8.80 for Windows) was applied to the data set, substituting all missing values for multiply-imputed values. Fully conditional specification of the missing data was conducted following validation of the pattern of missing data being random. With no missing data remaining in the data set, the following analyses were conducted.

8.2. Objective One Results: OCAI Confirmatory Factor Analysis

8.2.1. Assumption Testing. Sample size was considered sufficient as previously outlined. All responses were in the possible range expected prior to measurement. Raw data from several of culture indicators indicated a normality violation due to significant Shapiro-Wilk statistics ($\alpha = .05$). Kline (2005) recommended that a normal solution may not be possible in situations where a variable is not expected to have a normal distribution, and to proceed with caution as a result. Given that preferences for values appeared to be skewed in terms of overall favouritism as reported by Schwartz and Bardi (2001), it is expected that specific culture preferences would likely to be skewed due to the influence of values on culture. As a result there was some caution employed in the interpretation of the

model fit indices due to non-normality of several indicators, despite robust estimation procedures being applied during confirmatory factor analysis. Multicollinearity was not considered problematic due to the Pearson's r values being below .80 for each correlation between items. Likewise the factorability of R was not considered problematic, as the bivariate correlations between indicators had multiple instances in excess of .30. Therefore confirmatory factor analysis was considered a viable means of model estimation in the current analysis.

8.2.2. Individual Preferences for Culture CFA. LISREL (Version 8.80 for Windows) was employed during CFA testing. The first CFA was conducted to determine whether the individual preferences (IP) data conformed to the hypothesised Organizational Culture Assessment Instrument model (Cameron & Quinn, 2006).

A unifactor model was first tested for use as a baseline against from which to assess the fit of the four factor model. The unifactor model loaded all indicators from the OCAI onto a single factor representing IP for organizational culture as a whole. The unifactor model had poor fit when explaining the IP indicators (see Table 7; Appendix G). The NC ratio, $SRMR$, and $RMSEA$ coefficients were all unacceptably above the standard statistical cut-offs, which are presented in Appendix G (Kline, 2005). In summary, the unifactor model did not seem to explain culture based on IP data adequately, and therefore I moved on to examine the four factor model specified by the OCAI (Cameron & Quinn, 1999, 2006).

Table 7.

Comparisons of Fit Indices Between the Unifactor and Hypothesised Models of Individual Preferences for Culture.

	df	χ^2	p	NC^a	$SRMR^b$	CFI^c	$RMSEA^d$	90% CI^e
Unifactor	252	1293.66	.001	5.13	.11	.71	.14	.13-.15
Four Factor	246	759.00	.001	3.08	.087	.89	.09	.08-.09
Revised Model	246	725.40	.001	2.95	.076	.91	.08	.07-.08
Δ Unifactor- Revised	6	568.26	.001					

Note. ^a Normed Chi-Square. ^b Standardised Root Mean Square Residual. ^c Comparative Fit Index. ^d Root Mean Square Error of Approximation. ^e 90% Confidence Interval for RMSEA.

The following CFA tested the four factor model suggested by Cameron and Quinn's (2001) OCAI measure. IP culture indicators were mapped onto their hypothesised latent factors according to the OCAI's configuration (i.e., the six Market indicators were mapped onto the 'Market' latent factor). The preliminary CFA for the individual-level culture data appeared to provide a near-acceptable model fit (see Table 7). CFI was slightly below the minimum acceptable cut-off presented in Appendix G. $RMSEA$ and its 90% confidence

intervals had an upper range in excess of .08, therefore it was not considered a good model fit. In a combined statistical and theory-driven approach to model reassessment, LISREL's modification indices suggested that the second item of the Hierarchy subscale should be remapped to the Clan latent factor. To avoid the capitalisation on associated with data-driven model re-specifications, I examined whether this reconfiguration would be theoretically justifiable. I believed the statement "The leadership practices in the organization are generally considered to exemplify *coordinating, organizing, or smooth-running efficiency*" [emphasis author's own] (Cameron & Quinn, 2006, p. 26) could be viably interpreted as belonging to the Clan culture. Clan culture was typified by consensus driven practices and being an 'extended family' in terms of its organizing behaviours. Therefore this item seemed sensible to include as an indicator of the Clan factor. This was further substantiated when it was noted that the Clan culture factor is not diagonally opposed to the Hierarchy culture factor in the CVF. Concordantly this indicated that the item migration was not in violation of the reciprocal opposition relationships embedded within the model (Nelson & Gopalan, 2003).

The model was respecified with the second indicator of the Hierarchy subscale remapped onto the Clan latent factor. The respecified model had an improvement in fit (see Table 7). The *CFI* above .90 was indicative of acceptable fit. Paired with the *RMSEA* and *SRMR* statistics below the thresholds for acceptable model fit, it was considered that the IP four factor model of culture was adequate. Comparisons of model fit between the unifactor model, and the revised four factor solution, indicated a significant improvement in model fit by the four factor model (see Table 7). In summary, the revised four factor model of culture for the IP data was considered to have acceptable levels of model fit, as presented in Figure 8. Means, standard deviations, and reliabilities of the revised four factor model are presented in Table 8.

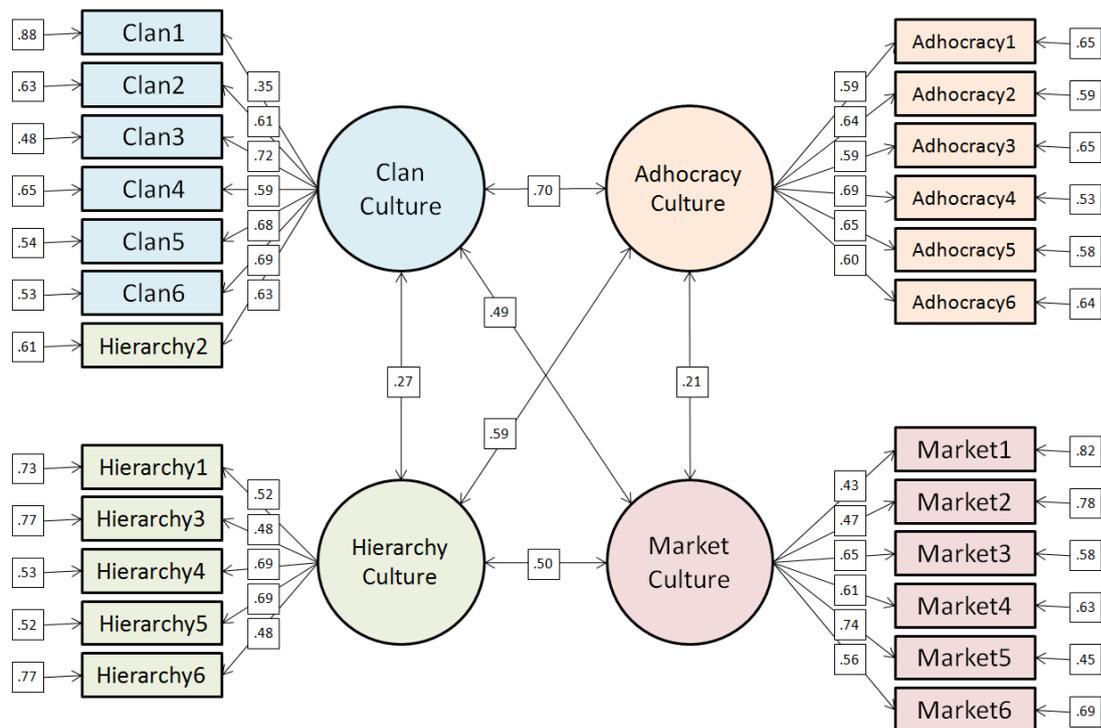


Figure 8. Standardised fit indices and error terms for the revised four factor model of individual culture preferences.

Table 8.

Means and Standard Deviations of Individual-Level Preferences for Culture Factors.

	M	SD	Minimum	Maximum	α Reliability
Clan Culture	4.15	.47	2.00	5.00	.80
Adhocracy Culture	3.70	.60	1.67	5.00	.79
Hierarchy Culture	3.08	.65	1.67	5.00	.69
Market Culture	3.82	.52	2.00	5.00	.75

To examine the internal reliability of the individual factors, Cronbach's α was calculated for each factor. Reliabilities were generally considered acceptable, with the exception of the Hierarchy culture factor. However, these reliability results are generally comparable to previous studies involving the OCAI (Quinn & Spreitzer, 1991; Zammuto & Krakower, 1991), and were therefore deemed acceptable due to their concordant results.

8.2.2. Perceived Organizational Culture Modelling. The second CFA examined perceived organizational preferences (OP) for the four culture factors. As suggested by Kline's (2005) factor analysis methodology, a unifactor solution for all indicators of the four factor model was tested first. The unifactor solution provided a baseline for comparison with further four factor model configurations, such that it would hypothetically demonstrate the improvements in model fit created by a four factor solution. The unifactor solution, which loaded all indicators onto a single factor representative of organizational

culture as a whole, was not considered a good fit (see Table 9). The Normed Chi-Square (NC), greater than the recommended target value of approximately 2 or 3 (Kline), indicated a poor fitting model. Additionally the Root Mean Square Error of Approximation (RMSEA) coefficient was beyond the maximum suggested threshold of .10 (Kline). In summary, the unifactor model for OP culture data was not considered to be an adequate model for interpretation.

Table 9.

Comparisons of Fit Indices Between the Unifactor and Hypothesised Models of Perceived Organizational Preferences for Culture.

	<i>df</i>	χ^2	<i>p</i>	<i>NC</i> ^a	<i>SRMR</i> ^b	<i>CFI</i> ^c	<i>RMSEA</i> ^d	90% <i>CI</i> ^e
Unifactor	252	1655.60	.001	6.57			.13	.12-.14
Four Factor	246	739.68	.001	3.00	.082	.94	.08	.07-.09
Revised Model	246	698.56	.001	2.84	.073	.95	.07	.07-.08
Δ Unifactor- Revised	6	957.04	.001					

Note. ^a Normed Chi-Square. ^b Standardised Root Mean Square Residual. ^c Comparative Fit Index. ^d Root Mean Square Error of Approximation. ^e 90% Confidence Interval for RMSEA.

Following the unifactor model, the hypothesised four factor correlated model of culture was tested. Indicators were loaded onto latent factors in a manner reflective of Cameron and Quinn's (1999, 2006) OCAI configuration (e.g., all six indicators of the Clan culture were loaded onto the 'Clan' latent factor in the model). The preliminary CFA conducted on the four factor model produced close-to-acceptable indicators of model fit (see Table 9). As indicated, the ratio of chi square to degrees of freedom is within the acceptable range specified by Kline (2005). CFI and SRMR are also acceptable in the first iteration of the model. It is only the RMSEA value that is slightly higher than what would be considered minimally acceptable for good fit, especially when taking into consideration the 90% confidence intervals having an upper range of .09. Therefore recommendations of model improvement produced by LISREL were examined to see if a reduction in RMSEA could be achieved.

LISREL modification indices again suggested that Hierarchy item two should be remapped onto the Clan culture factor. This remapping was considered to be theoretically sound based on the question content. The respecified model integrating Hierarchy item two as an indicator of the Clan culture had better model fit than the original four factor model (see Table 9). The reduction in *RMSEA*, and its 90% confidence intervals having an upper range of no greater than .08, indicated acceptable model fit. There was a significant difference in model fit between the univariate model and the revised four factor model (see Table 9).

In summary the revised four factor model was considered appropriate in explaining the OP data for culture for the current sample, as evidenced in Figure 9. As a result, the combined means of the indicators for each factor were calculated to form culture factor variables for use in future analyses. Means, standard deviations, and Cronbach's (1951) alpha reliabilities coefficients of the revised four factor model are presented in Table 10. In both the individual and organizational-level data for the four factor model of culture, the Hierarchy factor was the weakest in terms of reliability, while the Clan factor was the strongest.

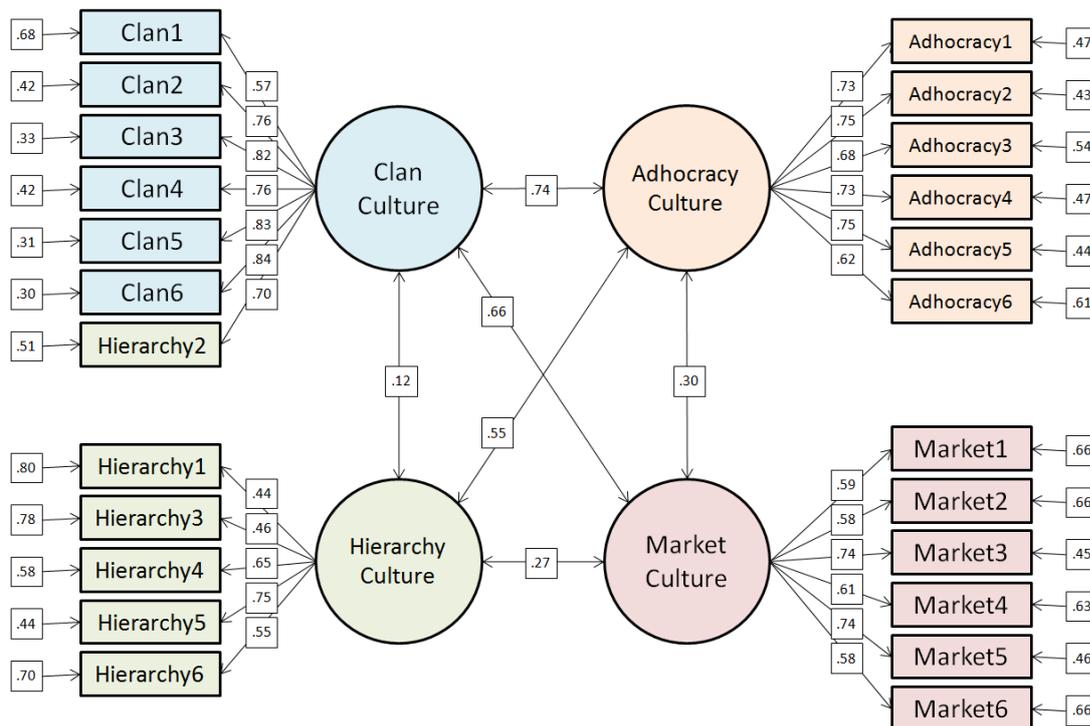


Figure 9. Standardised fit indices and error terms of the revised four factor model of perceived organizational culture preferences.

Table 10.

Means and Standard Deviations of Perceived Organizational-Level Preferences for Culture Factors.

	<i>M</i>	<i>SD</i>	Minimum	Maximum	α Reliability
Clan Culture	3.21	.95	1.00	5.00	.90
Adhocracy Culture	2.79	.81	1.00	4.83	.86
Hierarchy Culture	2.85	.73	1.17	5.00	.70
Market Culture	3.70	.65	1.60	5.00	.80

All of the CFA hypotheses were therefore partially validated by the previously addressed analyses. Hypotheses 1a and 1b, which specify that the OCAI will be validated during CFA testing, was partially validated due to the remapping of Hierarchy item two to the Clan culture factor. As this remapping was replicated for both IP and OP models of the OCAI, the measure was not replicated in the exact configuration specified by Cameron and

Quinn (1999, 2006). Therefore partial validation of hypotheses 1a and 1b was found during the CFA testing.

8.3. Variable Validation and GWS Validation.

8.3.1. General Assumption Testing and Transformation. Prior to performing the multilevel modelling of IP and OP data for culture on the organizational outcomes, assumption testing underlying the analyses was conducted. The normality of the eight culture factors (IP and OP components of the four derived factors) and the organizational outcomes of Job Satisfaction, Turnover Intention, and Affective, Normative, and Continuance organizational commitment was assessed. Firstly, each variable was assessed for univariate normality using the Shapiro-Wilk test. All statistics were statistically significant ($\alpha = .05$), indicating non-normality ($df = 328, p > .05$). It appeared that the assumption of univariate normality was violated in most cases due to an unacceptable level of skewness in the data distribution (see Table 13). While it is common for the Shapiro-Wilk test to be sensitive to even small deviations from normality in larger sample sizes (Tabachnick & Fidell, 2007), the ratio of skewness to standard errors was concerning. Generally, when $Z > \pm 1.64$ (representative of a deviation from normality greater than 95% of assumed populations when α is .05, one tailed) it is considered grounds to reject the normality assumption. An assessment of the direction and degree of skewness for each variable was undertaken.

Organizational preferences for the Adhocracy culture, and both Affective and Continuance forms of organizational commitment, had skewness to standard error ratios below 1.64, and were not treated to data transformations. Assessment of their distributions via histograms also confirmed that these variables were approximately normal in shape. For the remaining variables, square root, logarithmic, and inversion transformations were applied, with data being reflected in situations of negative skew (Tabachnick & Fidell, 2007). The transformations corrected means, standard deviations, and skewness statistics for each variable are presented in Table 11.

Table 11.

Means, Standard Deviations, and Skewness Statistics for Organizational Outcomes and Culture Factors Prior to Transformation and Following Transformation.

	M^a	SD^b	Original Skewness	Skew SE	Transformed Skewness	Transformed Skew SE
Job Satisfaction	1.36	.13	-.87	.135	-.06	.135
Turnover Intention	1.55	.34	.47	.135	-.07	.135
Normative OC	1.57	.25	-.27	.135	-.08	.135

Affective OC	3.10	.83	-.16	.135		
Continuance OC	2.94	.81	-.10	.135		
Clan Culture (Ind)	1.69	.17	-.22	.135	-.02	.135
Adhocracy Culture (Ind)	1.58	.20	-.27	.135	.12	.135
Market Culture (Ind)	1.75	.19	-.44	.135	.10	.135
Hierarchy Culture (Ind)	1.65	.19	.31	.135	.01	.135
Clan Culture (Org)	1.60	.28	-.20	.135	-.02	.135
Adhocracy Culture (Org)	2.79	.81	.13	.135		
Market Culture (Org)	1.67	.22	-.67	.135	-.09	.135
Hierarchy Culture (Org)	1.60	.21	.27	.135	-.16	.135

Note. ^a Mean after transformation, ^b SD after transformation, blank cells indicate no transformation from original values.

The reliabilities of the outcome variables were then calculated. Cronbach's (1951) α for each of the outcome variables is presented in Table 12. As indicated, all reliabilities were adequate ($>.70$), therefore the outcome variables were deemed feasible for aggregation.

Table 12.
Scale Reliabilities and Item Count for Organizational Outcome Measures.

	α	<i>N</i> of scale items
Affective OC	.83	6
Normative OC	.84	6
Continuance OC	.78	6
Job Satisfaction	.90	15
Turnover Intention	.86	3

8.3.2. Generalised Workplace Satisfaction Validation. To ensure that the five workplace outcome measures loaded onto a single factor representative of generalised workplace outcomes, an exploratory factor analysis was conducted. The assumptions of the Kaiser-Meyer-Olkin measure of sampling adequacy (.726), and Bartlett's test of sphericity, $\chi^2 (10, N = 328) = 470.96, p < .001$, were both adequately met. The anti-image correlation matrix suggested that Continuance OC might be a poor fit in the model ($r = .383$), therefore interpretation of this indicator in any identified models to follow would be presented cautiously. The initial EFA was allowed to converge on factors with Eigenvalues greater than one as per the Kaiser criterion standard (Tabachnick & Fidell, 2007). A two factor model was initially produced in this manner, however the scree plot (see Appendix C) suggested a one factor model would be more appropriate. Of greater concern was the very low commonality (.094) of Continuance OC in the current model, which indicated that less than 1% of its variance was adequately accounted for by the model. Paired with the anti-image

matrices assumption failure described previously, Continuance OC was removed from the model, and the EFA was analysed a second time. A single factor model was produced during the second EFA analysis (see Appendix C). After verifying all of the assumptions described previously as having been adequately validated by the four entered predictors, the model was deemed an acceptable fit. Despite a significant chi-square, $\chi^2(2, N = 327) = 22.06, p = .001$, the model explained 51.9% of the variance in the factors, therefore it was considered to be an adequate model. The unrotated factor loadings for each predictor are presented in Table 13. The factor score covariance matrix value was adequate (.850), therefore it appeared that the generalised workplace outcomes variable could be aggregated successfully using the four predictors.

Table 13.

Factor Loading Coefficients for the Four Outcome Measures Composing GWS ($N = 328$).

Factor Loading	Predictor Variables			
	Affective OC	Job Satisfaction	Turnover Intention	Normative OC
	.878	.674	-.673	.631

To create a general aggregated variable of organizational outcomes, Generalised Workplace Satisfaction (GWS), standardisation of the organizational outcome variables was required before summation. As the outcomes were derived from scales with differing item counts and total scores, addition of individual scale total scores to calculate a total score would suffer from an uneven weighting of particular organizational outcomes compared to others. To correct this, standardised Z scores of each organizational outcome variable were created. The calculation of Weisberg's t prior to the aggregation of the organizational outcome measures indicated that the largest standardised residual was less than the critical t value for 3 parameters (representative of the null MLM model discussed later). Therefore univariate outliers were not a concern. As the three other organizational outcome variables had the same coefficient direction, for ease of interpretation I reflected the Turnover Intention variable for conformity. Assessing multicollinearity between the outcome measures via correlation coefficients did not present any concerns for this aspect of data integrity. All Pearson's $r < .80$, therefore not indicative of multicollinearity, as presented in Table 14.

Table 14.

Correlation Matrix Presenting Pearson's r values and Cronbach's α Reliabilities for Organizational Outcome Measures ($N = 328$).

	Turnover Intention ^a	Job Satisfaction	Normative OC	Affective OC
Turnover Intention ^a	.857	.555**	.379**	.570**

Job Satisfaction	.904	.351**	.579**
Normative OC		.835	.592**
Affective OC			.830

Note. ^a Reflected form of Turnover Intention. ** $p < .01$. Diagonal cells α represent Cronbach's (1951) α reliability.

Having standardised the components of the GWS outcome variable, the variable was computed using Formula 7:

$$7) \quad GWS = \text{Job Satisfaction}_z + \text{Affective OC}_z + \text{Normative OC}_z + \text{Turnover Intention}_z$$

Job Satisfaction, Affective and Normative OC were summed, in addition to the reflected form of Turnover Intention. A check for the reliability of the aggregated outcome indicated that it was acceptable, $\alpha = .803$. The summed GWS variable had a plausible range of scores (between -8.51 and 7.34), with a $M = -.01$ and $SD = 3.17$. In summary, GWS was constructed from four organizational outcomes tested in my study, for use in the HMRA and MLM analyses of culture predictors to follow. The second research question within the first objective was consequently supported.

8.3.4. Control Variable Suitability for Analyses. As described in the Measures section of the General Methodology, data was collected for four potential control variables: Age, Gender, Occupational Tenure, and Organizational Tenure. To determine whether any of the potential control variables were significantly related to the outcome variable GWS, each control variable was correlated with the criterion variable. Table 15 presents the results of the correlation.

Table 15.

Pearson's r Coefficients for Relationships Between Control Variables and GWS (N = 328)

	Age	Gender	Occupation Tenure	Organization Tenure
GWS	.102	-.079	.145**	.109*

Note. * $p < .05$. ** $p < .01$. Gender was coded as 0 = male, 1 = female.

As indicated, age and gender did not have a significant correlation ($\alpha = .05$) with GWS, and were therefore removed from further regression and multi-level modelling analyses. Occupational and Organizational Tenure, given their significant correlation coefficients, were included in upcoming HMRA and MLM analyses as control variables.

8.4. Objective One Results: HMRA and MLM analyses of Culture predicting GWS.

8.4.1. Additional Individual Preferences Culture Data Assumption Testing. A preliminary check of multivariate outliers specific to the combination of variables in the current analysis indicated two influential cases. Due to the significant Mahalanobis' and Cook's distances of these cases, they were excluded and the analysis was rerun.

8.4.2. Individual Preferences HMRA Results. To address the first study objective and the goal of examining the culture-outcomes, a HMRA was conducted to examine the proportion of variability in GWS accounted for by the IP culture predictors. Prior to conducting the HMRA, the bivariate correlations between the entered variables were assessed and are presented in Table 16.

Table 16.
Correlations Between Individual Preferences Predictors Used in HMRA/MLM Analyses ($N = 327$).

	Clan	Adhocracy	Market	Hierarchy	Occ ^a Tenure	Org ^b Tenure
GWS	.189***	-.020	-.077	.203***	.145**	.109*
Clan		.572***	.212***	.370***	.159***	.098
Adhocracy			.466***	.188***	-.011	-.043
Market				.395***	-.078	-.014
Hierarchy					.042	.120*
Occ ^a Tenure						.585***

Note. ^a Occupational, ^b Organizational, * $p < .05$, ** $p < .01$, *** $p < .001$.

The control variables were entered in the first block of the HMRA. The culture predictors were entered in the second block of predictors. The summary statistics of the HMRA are provided in Table 17.

Table 17.
Unstandardised and Standardised Coefficients for Individual Preferences for Culture Predictors when Predicting GWS ($N = 325$).

	<i>B</i>	<i>SE</i>	<i>B</i>	<i>p</i>	<i>sr</i> ²	<i>R</i> ²
Step One						
Occupational Tenure	.034	.019	.119	.078	.009	
Organizational Tenure	.030	.032	.063	.345	.003	
Δ						.03
Step Two						
Occupational Tenure	.025	.019	.089	.178	.005	
Organizational Tenure	.017	.031	.035	.595	.001	
Clan Culture	3.136	1.327	.169	.019*	.016	
Adhocracy Culture	-1.309	1.160	-.083	.260	.004	
Market Culture	-2.710	1.127	-.158	.017*	.016	
Hierarchy Culture	3.613	1.038	.218	.001**	.034	
Δ						.08
Model Total						.11

Note. * $p < .05$, ** $p < .01$.

The first step of the HMRA was significant, $F(2, 323) = 4.44$, $p = .013$, $R^2 = .03$, indicating that the control variables in unison accounted for approximately 3% of the variance in GWS. The second step of the HMRA was also significant, $\Delta F(4, 319) = 7.40$, $p =$

.001, $\Delta R^2 = .08$, indicating that the IP data for the culture predictors explained an additional 8% of the variance in GWS. The combined model explained 11% of the variance in GWS, $F(6, 319) = 6.53$, $p = .001$, $R^2 = .11$. According to Cohen's (1988) effect size indicators, the calculated effect size $f^2 = .122$ was considered between a small and moderate effect.

In the complete HMRA model of IP culture, Clan ($p = .019$), Market ($p = .017$), and Hierarchy ($p = .001$) culture preferences accounted for significant unique variance in GWS. Both Clan and Hierarchy culture preferences had positive coefficients, while the significant Market culture predictor had a negative coefficient. Calculation of the proportionate drop-off in explanatory variance when generalising these findings beyond the current sample indicated a poor degree of generalisation. The proportionate drop-off was calculated as 14.68%, indicating that further IP-level generalisations were weakened based on what had been established in the current sample.

8.4.3. Individual Preferences MLM Results. To examine whether the HMRA results would be replicated when controlling for between-organizational differences, an MLM was conducted for the IP culture data. The manner in which the MLM was conducted was similar to the general methodology described by Heck et al. (2010). A null MLM model was initially produced for comparative purposes with the experimental model (which bore the other control/experimental predictors of GWS seen in blocks one and two of the HMRA). The MLM was conducted using the SPSS MIXED program. To create the null model, organizational origin was specified as the between groups variable. Due to the smaller sample sizes per organization, the REML method of model estimation was employed instead of ML (Heck et al., 2010). Origin's intercept was mapped onto the outcome variable of GWS as both a fixed and random intercept, as is the default approach in the null model (Heck et al.). For the null model, the index of fit via the -2 Log Likelihood index was $\chi^2(1, N = 325) = 1651.7$. The null model's solution is presented in Table 18. It is interesting to note that with a one-tailed p value correction to the Wald Z statistic for the random intercept ($p = .044$), there appeared to be a significant amount of between-groups variability in GWS. As the Wald Z statistic and its significance testing is somewhat contentious in MLM (Heck et al., Peugh & Enders, 2005), the Intra-Class Correlation coefficient required examination for further evidence of a significant between-groups influence on the data.

Table 18.

Null Model Examining Between-Organization Influence on GWS using OP culture data (N = 325).

	Unstandardised Estimate	SE	df	t	Wald Z	p
Fixed Effects						
Intercept	-.119	.368	10.05	-.323		.753
Random Effects						
Residual	9.020	.718			12.56	.001 ^{***}
Intercept (Origin)	1.008	.590			1.71	.044 [*]

From the null model's solution, the Intra-Class Correlation (ICC) coefficient was calculated. The ICC is an index of how much between group's variability exists within the data. The ICC = .101, which indicated that approximately 10.1% of the variance in GWS was attributable to the differences between organizations. While accounting for the between groups variance was not a goal of my study, only a control aspect, it is interesting to note that the proportion of the between-groups variance was > 5%. This was above the general level of indication of a noteworthy ICC (Heck et al., 2010; Peugh & Enders, 2005), and therefore the between groups variability will be taken into account during the proceeding MLM analyses, complementing the statistical significance of the Wald Z test.

Examination of the variations in reliability between the group sizes (which ranged from 11 to 54 participants) was also calculated. As the reliability of the upcoming calculations will vary between groups on the basis of sample size, it was valuable to determine the upper and lower bounds of reliability within the sample (Heck et al., 2010). Utilising the residual and intercept estimates from the random effects table, the reliabilities between groups was calculated and presented in Figure 10.

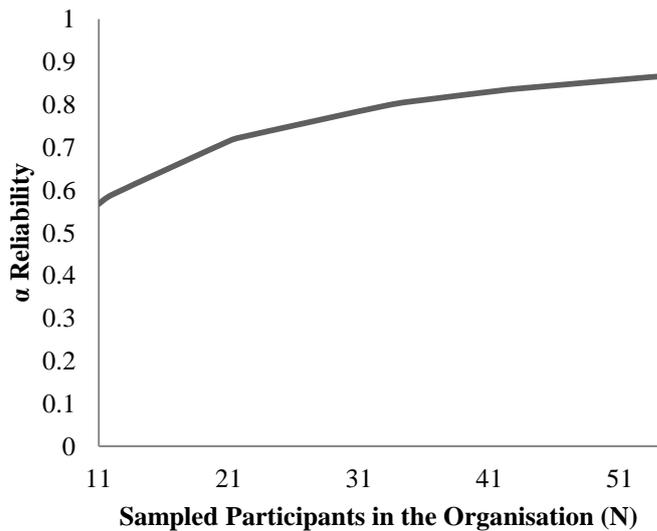


Figure 10. Reliability as a function of group size when conducting MLM.

As indicated in Figure 10, reliability in the smallest group (11 participants) = .567, while reliability in the largest group (54 participants) = .865. Mean reliability across the groups was approximately .760. Therefore, while the results from the smaller groups are expectedly lower than the larger groups, generally the variation in sample sizes trends towards acceptable reliability when conducting the MLM (Heck et al.).

Demographic characteristics of organizational and occupational tenure were entered in the first block as fixed parameters, while the four culture factors were entered in the second block. The experimental model is presented in Table 19.

Table 19.

Test of Four Factor Individual Preferences for Culture and Demographic Predictors on GWS ($N = 325$).

	UE ^a	SE	df	t	Wald Z	χ^2	R^2	p
Null Model								
Fixed Effects								
Intercept	-.13	.359	9.99	-.37				.720
Random Effects								
Residual	9.12	.725			12.58			.000 ^{***}
Intercept (Origin)	.95	.565			1.68			.047 [*]
Δ						1659.81		
First Block								
Fixed Effects								
Intercept	-.13	.359	9.99	-.35				.736
Occupational Tenure	.03	.018	316.47	1.60				.110
Organizational Tenure	.01	.032	317.91	.28				.778
Random Effects								

Residual	8.99	.715		12.58	.000 ^{***}
Intercept (Origin)	.95	.564		1.68	.046 [*]
Δ Within				4.59	.101
Second Block					
Fixed Effects					
Intercept	-.13	.359	10.02	-.35	.735
Occupational Tenure	.02	.018	316.44	1.27	.205
Organizational Tenure	.00	.031	317.87	.12	.907
Clan Culture	2.40	1.298	316.66	1.85	.065
Adhocracy Culture	-.83	1.140	316.60	-.73	.466
Market Culture	-2.58	1.096	316.56	-2.35	.019 [*]
Hierarchy Culture	3.00	1.018	316.61	2.95	.003 ^{**}
Random Effects					
Residual	8.44	.671		12.58	.000 ^{***}
Intercept (Origin)	.97	.564		1.72	.043 [*]
Δ Within				20.01	.061
Δ Total				24.61	.075
					.001 ^{***}

Note. ^{*} $p < .05$, ^{**} $p < .01$, ^{***} $p < .001$. ^a Unstandardised Estimate. Wald Z scores significance corrected for one-tailed p values.

The null model's -2 Log Likelihood index was $\chi^2 (1, N = 326) = 1659.81$, which was used in upcoming comparisons. For the first block of predictors (the control variables), there was a non-significant improvement in model fit, $\Delta\chi^2 (2, N = 326) = 1659.81 - 1655.22 = 4.59$, $p = .101$. For the second block of predictors, which entered the culture predictors into the model, there was a significant improvement in model fit compared to the first block model, $\Delta\chi^2 (4, N = 326) = 1655.22 - 1635.21 = 20.01$, $p = .001$. Additionally, the overall model had a significantly better fit than the null model, $\Delta\chi^2 (4, N = 325) = 1659.81 - 1635.21 = 24.61$, $p = .001$. The final model's index of model adequacy calculated $R^2 = .075$, or approximately 7.5% of the variance in GWS is explained by the combination of predictors in the final model. Therefore hypotheses 4a and 6a were not supported during this testing due to statistical non-significance of the Clan and Adhocracy predictors. Hypothesis 5a was not supported, due to the significant Hierarchy culture indicator having a positive coefficient instead of the expected negative coefficient. Hypothesis 7a was supported, as Market culture was a significant predictor.

In comparison to the HMRA conducted using the same predictors, two noteworthy aspects were presented. Firstly, there was a general reduction in the standard errors of the MLM output compared to the HMRA model. When coupled with the second-level controls for between-groups differences due to organizational origin, it appeared that the standard

errors were lower than what was predicted by the HMRA model. Secondly, the clan culture predictor was non-significant in the MLM analysis, despite being a significant predictor in the HMRA analysis. Hypothesis 8 was supported as a result of the significant between-organizational variance presented in the MLM analysis. Hypothesis 9 was not supported by the results of the MLM, as the Clan culture indicator was not significant after accounting for between-organizational variability in the GWS variable.

As the random intercept had a significant Wald Z score in the experimental model ($p = .043$, one-tailed), there was a significant amount of between-groups variance unexplained by the current model. As previously stated, my study's goal was to use MLM to control for between-level variability, with explanation a peripheral concern. The change in explained variance for the between-level variability was again negative, $R^2 = -.022$ or -2.2% , owing to the increase in accuracy as a result of more predictors present in the final model compared to the null model.

8.4.4. Additional OP Culture Data Assumption Testing. An initial HMRA used to test for assumption violations indicated that one participant had significant multivariate non-normality, due to a significant Mahalanobis' distance and Cook's distance. In addition, another participant was indicated as a univariate outlier with a high (>3.3) standardised residual. These cases were removed, and the HMRA was reanalysed.

8.4.5. Organizational Preferences HMRA Results. To examine the effect of organizational culture on GWS, a Hierarchical Multiple Regression Analysis (HMRA) was conducted. The HMRA provided a means of contrast against the later-conducted equivalent MLM analysis, as it does not take into account the intra-organizational differences in the measures of explained variance. Prior to conducting the HMRA analysis, a correlation of the variables involved in the HMRA was produced as presented in Table 20.

Table 20.
Correlations Between OP Predictors Used in HMRA/MLM Analyses ($N = 327$).

	Clan	Adhocracy	Market	Hierarchy	Occ ^a Tenure	Org ^b Tenure
GWS	.671 ^{***}	.511 ^{***}	.001	.297 ^{***}	.145 ^{**}	.109 [*]
Clan		.652 ^{***}	.124 [*]	.494 ^{***}	.083	.037
Adhocracy			.484 ^{***}	.216 ^{***}	.042	.061
Market				.219 ^{***}	.001	.071
Hierarchy					.045	.024
Occ ^a Tenure						.585 ^{***}

Note. ^a Occupational, ^b Organizational, * $p < .05$, ** $p < .01$, *** $p < .001$.

The control variables of Organizational and Occupational Tenure were entered in the first block of predictors. The second block of predictors entered the perceived organizational preferences for the four culture factors (Clan, Adhocracy, Hierarchy, and Market).

The first block of the HMRA was significant, $F(2, 322) = 4.41, p = .013, R^2 = .02$, indicating that the control variables in unison accounted for approximately 2% of the variance in GWS. The second block of the HMRA was also significant, $\Delta F(4, 318) = 80.82, p = .001, \Delta R^2 = .49$, indicating that the culture predictors explained an additional 49% of the variance in GWS. The combined model explained 52% of the variance in GWS, $F(6, 318) = 56.81, p = .001, R^2 = .52$. According to Cohen's (1988) effect size indicators, the calculated effect size $f^2 = 1.083$ was considered a very large effect. Individual coefficients and their predictive significance are presented in Table 21.

Table 21.

Unstandardised and Standardised Coefficients for Perceived Organizational Culture Preferences when Predicting GWS ($N = 325$).

	<i>B</i>	<i>SE</i>	<i>B</i>	<i>p</i>	<i>sr</i> ²	<i>R</i> ²
Block One						
Occupational Tenure	.034	.019	.120	.075	.010	
Organizational Tenure	.029	.032	.062	.358	.003	
Δ						.027
Block Two						
Occupational Tenure	.017	.014	.059	.218	.002	
Organizational Tenure	.029	.023	.060	.210	.002	
Clan Culture	5.665	.725	.498	.001 ^{***}	.092	
Adhocracy Culture	1.117	.250	.283	.001 ^{***}	.030	
Market Culture	-2.782	.707	-.193	.001 ^{***}	.023	
Hierarchy Culture	.533	.714	.036	.456	.001	
Δ						.491
Model Total						.517

*** $p < .001$

The results of the HMRA indicated that perceived organizational preferences for Clan, Adhocracy, and Market culture significantly influenced the dependent variable of GWS. Clan and Adhocracy culture preferences was positively associated with GWS, while the preference for the Market culture were negatively associated with GWS. To assess for cross-validity of these findings, proportion drop-off between the R^2 and adjusted R^2 values indicated only a 1.75% reduction in explained variance when generalising to the population. This was considered to be quite low. I extended these findings to see if they generalised to an MLM variant of this analysis that controlled for between groups differences in organizations.

8.4.6. Organizational Preferences MLM Results. To test the predictive merit of the organizational culture factors influencing GWS, an identical predictor entry structure to that of the previous HMRA was used. The solution is presented in Table 22.

Table 22.

Test of Four Factor Perceived Organizational Preferences for Culture and Demographic Predictors on GWS ($N = 325$).

	UE ^a	SE ^b	df	t	Wald Z	χ^2	R ²	p
Null Model								
Fixed Effects								
Intercept	-.12	.368	10.05	-.32				.753
Random Effects								
Residual	9.020	.718			12.56			.001 ^{***}
Intercept (Origin)	1.01	.590			1.71			.044 [*]
Δ						1651.72		
First Block								
Fixed Effects								
Intercept	-.11	.367	10.05	-.31				.766
Occupational Tenure	.03	.018	315.48	1.62				.107
Organizational Tenure	.01	.032	316.92	.19				.852
Random Effects								
Residual	8.90	.708			12.56			.001 ^{***}
Intercept (Origin)	1.01	.589			1.71			.044 [*]
Δ Within						4.36	.014	.113
Second Block								
Fixed Effects								
Intercept	-.13	.368	10.21	-.35				.732
Occupational Tenure	.02	.013	315.36	1.36				.174
Organizational Tenure	.02	.023	316.38	.94				.350
Clan Culture	5.67	.734	315.38	7.72				.001 ^{***}
Adhocracy Culture	1.11	.251	315.35	4.40				.001 ^{***}
Market Culture	-2.66	.695	315.36	-3.82				.001 ^{***}
Hierarchy Culture	.30	.706	315.44	.43				.670
Random Effects								
Residual	4.64	.369			12.56			.001 ^{***}
Intercept (Origin)	1.17	.596			1.97			.025 [*]
Δ Within						205.32	.479	.001 ^{***}
Δ Total						209.68	.486	.001 ^{***}

Note. ^{***} $p < .001$, ^a Unstandardised estimate, ^b Standard error, Wald Z scores significance corrected for one-tailed p values.

For the first block of predictors, there was a non significant improvement in model fit, $\Delta\chi^2(2, N = 325) = 1651.72 - 1647.36 = 4.36, p = .113$. For the second block of predictors, which added the culture predictors to the model, there was a significant improvement in model fit compared to the first block model, $\Delta\chi^2(4, N = 325) = 1647.36 - 1442.04 = 205.32, p = .001$. Additionally, the second block model had a significantly better fit than the null model, $\Delta\chi^2(4, N = 325) = 1651.72 - 1442.04 = 209.68, p = .001$. Hypotheses 4b, 6b, and 7b were therefore supported due to the significant Clan, Adhocracy, and Market culture indicators presented in the MLM findings. Only hypothesis 5b was not supported by the conducted analyses, due to Hierarchy culture's statistical non-significance.

The findings were similar to that of the initial HMRA, with only marginal changes noted in estimates and standard errors in the MLM model. Regarding the calculated proportion of within-groups variance accounted for in GWS by the outlined model, $R^2 = .486$, or 48.6% of the variance in GWS was explained by the organizational culture factors and the demographic variables. The Clan, Adhocracy, and Market cultures were significant predictors of GWS. The Clan and Adhocracy culture preferences had positive coefficients, while the Market culture preference had a negative coefficient. Regarding the between groups predictors, there was a significant quantity of explained variance remaining, $p = .025$ (one-tailed). When examining the R^2 change for the between-level effects, an unexpected negative R^2 change was calculated, $R^2 = -.163$, or -16.3%. However, this 'unimproved fit' between the two models was most likely due to a better approximation of the unstandardised estimates and standard errors in the experimental model, due to the presence of other variables in the model (Heck et al., 2010). As I have not added between-groups predictors due to it being outside of the goals of my study, there was no visible increase in between-groups model explanatory value. Keeping in mind that the emphasis of my study is to control for between-groups effects via MLM, with their explanation only a peripheral concern, this finding wasn't considered problematic. Hypotheses 8 and 9 were supported as part of these analyses, due to the significant between-organizational variability in GWS that did alter the listing of significant culture predictors. In summary, organizational culture accounted for a significant proportion of variance in GWS, with three of the four factors demonstrating significant predictive merit.

8.5. Culture Discussion

8.5.1. Hypothesis Assessment. Prior to discussing the findings of the culture-based analyses, the results relevant to my study's first objective are summarised in Table 23.

Table 23.

Summary of the Testable Hypotheses Relevant to Objective One.

Hypothesis Number	Description	Supported
1a	The item-factor structure for the OCAI (Cameron & Quinn, 1999, 2006) for the employee preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.	Partial
1b	The item-factor structure for the OCAI (Cameron & Quinn) for the perceived organizational preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.	Partial
2	Job Satisfaction, Organizational Commitment, and Turnover Intention will all load with adequate model fit on a single factor to indicate their unidimensionality.	Yes
3	The unidimensional Generalised Workplace Satisfaction variable will produce a calculated Cronbach's (1951) alpha statistic in excess of .70.	Yes
4a	Individual preferences for Clan culture will positively account for significant unique variance in GWS.	No
4b	Perceived organizational preferences for Clan culture will positively account for significant unique variance in GWS.	Yes
5a	Individual preferences for Hierarchy culture will negatively account for significant unique variance in GWS.	No
5b	Perceived organizational preferences for Hierarchy culture will negatively account for significant unique variance in GWS.	Yes
6a	Individual preferences for Adhocracy culture will account for significant unique variance in GWS.	No
6b	Perceived organizational preferences for Adhocracy culture will account for significant unique variance in GWS.	Yes
7a	Individual preferences for Market culture will account for significant unique variance in GWS.	Yes
7b	Perceived organizational preferences for Market culture will account for significant unique variance in GWS.	Yes
8	The MLM analyses will indicate significant influence of between-organizational variability on the GWS criterion variable.	Yes
9	No significant culture indicators in the HMRA will become non-significant indicators during the equivalent MLM analyses.	No

In the confirmatory factor analyses, hierarchical multiple regression analyses, and multi-level modelling, there was mixed support for hypotheses. Hypotheses 1a and 1b, testing whether the culture indicators loaded in the pattern specific by the OCAI (Cameron & Quinn, 1999, 2006) were better-fitting than the single factor model, were partially supported. All indicators bar the second item from the hierarchy dimension loaded on their predicted factors from the OCAI. The second item of the hierarchy factor loaded on the clan factor for both individual and perceived organizational preferences data. Once this change

to the models was made, both models demonstrated acceptable levels of model fit as predicted by the hypotheses.

Prior to testing the regression and MLM analyses, the GWS criterion variable demonstrated predictable coefficient directions and reliability for its constituent variables of Job Satisfaction, Affective/Normative Organizational Commitment, and Turnover Intention. Continuance Organizational Commitment was dropped from the GWS criterion variable, after it did not appear to be related to the other variables to a sufficient degree. Therefore hypothesis two was supported, as Job Satisfaction, Organizational Commitment, and Turnover intention were confirmed as being indicative of a generalised factor of workplace satisfaction. Additionally hypothesis three was supported as the GWS variable had sufficient alpha reliability.

Mixed support was found for hypotheses 4a, 5a, 6a, and 7a, which examined whether the four culture indicators for IP data would predict GWS. While preferences for the Clan, Market, and Hierarchy culture were significant in the initial HMRA analysis, only the Market and Hierarchy culture preferences were significant indicators in the MLM analysis. The significant Hierarchy coefficient direction was contrary to what was expected by the hypothesis, as it indicated a positive coefficient instead of the theorised negative coefficient. The statistical non-significance of the Clan and Adhocracy predictors therefore did not support hypotheses 4a and 5a. Hypothesis 6a was not supported, as despite being a statistically significant indicator of GWS it bore a positive coefficient direction instead of the predicted negative coefficient direction. Hypothesis 7a was supported by the results, as the IP Market factor was a statistically significant predictor of GWS as anticipated.

HMRA and MLM analyses of the perceived organizational preferences data indicated that the Clan, Adhocracy, and Market culture preferences were significant predictors of GWS. Clan and Adhocracy culture preferences were positive predictors of GWS, while preferences for the Market cultural archetype were negatively associated with GWS. Therefore the statistical significance of the Clan and Adhocracy culture factors predicting GWS supported hypotheses 4b and 5b, respectively. Hypothesis 6b was not supported however, as OP for Hierarchy culture was a statistically non-significant predictor of GWS. Hypothesis 7b was supported due to the statistical significance of the Market culture predictor. In light of hypotheses 4a through 7b discussed previously, there appeared to be mixed support for the relationship between culture and workplace satisfaction. These hypotheses consequently provided varying information regarding the nature of the culture-outcomes relationships investigated as part of my study's first objective.

8.5.2. Comparisons with Previous Findings and Theoretical Implications. From the basis of the CFAs, both the individual and organizational preferences models of the OCAI presented good fit statistics with regards to the data. One key differentiation between Cameron and Quinn's (1999, 2006) OCAI item-factor configuration, and the model representing good fit from my data, was the reappropriation of a Hierarchy culture indicator. This indicator was shifted to the Clan culture predictor, although as specified in the results, this was theoretically sound and not based solely on statistical reasons. Both the individual and organizational preferences models found optimal fit with the identical reconfiguration based on this Hierarchy culture indicator. While the OCAI of Cameron and Quinn was validated by the CFA, validation of the item-factor reappropriation conducted would be advisable in future research.

Additionally, the Hierarchy culture factor appeared to have less than desirable internal reliability on the basis of the Cronbach's (1951) alpha coefficients. This was concordant across the individual and perceived organizational preferences models representative of the OCAI (Cameron & Quinn, 1999, 2006). Hierarchy culture had the lowest reported alpha reliability in each instance. While a drop-off in reliability was generally predictable upon indicator reduction (Kline, 2005), the hierarchy factor had weaker internal reliability despite having five indicators intact. This finding has not been reported previously. This may be due to previous analyses of the factor structure of the OCAI used analyses such as multi-dimensional scaling (Cameron & Quinn), which is more exploratory in nature, and therefore may not have represented the correct indicator structure on each factor.

It was somewhat telling that there was consistency in the indicator rearrangement for both the individual and perceived organizational level data. This consistency could be due to the data being derived from the same source (the employee), and therefore the same perceptual schema of culture was applied identically in both situations. The online survey format had culture preferences items for the individual and organizational preferences scales in close proximity to each other. When participants responded to the questionnaire, they may have employed the same schema of interpretation in both instances possibly due to common-method bias. Common-method bias has been linked to inflated assessments of fit between individual/organizational preferences as discussed in the literature review (Doty & Glick, 1998; Kristof, 1996). Therefore concordance between the configurations of the individual and perceived organizational preferences models may be due to this source of bias.

While acknowledging the possibility of common-method bias, the necessity of the reappropriated Hierarchy indicator for adequate model fit is notable. This item switch may be sample specific. The sample used in these analyses was sourced from local government and private healthcare settings. It may be possible that the Hierarchy culture was ambiguously represented at these specific workplaces, such that the employees undertaking culture assessment were unsure about whether their culture reflected a hierarchy-based culture or not. This lack of clarity, perhaps in the form of contradictory application of some aspects of the hierarchy-based culture and dismissal of others akin to Martin and Meyerson's (1988) ambiguity conceptualization of culture, could be influential on this result. Future confirmatory factor analysis examination of the OCAI should investigate whether this reappropriation is replicable in improving model fit.

Despite an item reappropriation during both CFAs, it was worthwhile noting that *thematically* there was little deviation from Cameron and Quinn's (1999, 2006) conceptualization of the CVF as measured by the OCAI. The item swapped was arguably consistent with the definition of the Clan culture due to its focus on coordinating and organizing among employees, which can be indicative of a consensus driven approach to culture typical of the Clan culture. Therefore, while there was partial support of the OCAI model fit hypotheses due to the item reappropriation to achieve acceptable model fit, the model was generally supportive of the CVF. Analyses involving the culture factor preferences were therefore considered to be valid representations of Cameron and Quinn's factors, thus finding generalisations beyond the current study was considered a likely possibility.

The hypotheses regarding the GWS variable were a means of validating an aggregated measure of workplace outcomes for use in the HMRA/MLM analyses that followed. It is interesting to note that, while the aggregated outcome variable was validated due to the sufficient reliability of the final aggregated variable, Continuance Organizational Commitment was absent from the aggregated variable. The poor fit of Continuance commitment in GWS could be due to several reasons. Continuance Organizational Commitment is typified by feeling trapped within the organization, often due to a lack of alternative employment options (Meyer, et al., 1993). The lack of alternative employment options is also influenced by overtraining in organization-specific skills, which lead to a lack of skill set generalisability (Meyer, et al.). Continuance commitment has also been previously linked to Job Satisfaction and Turnover Intention (Meyer, et al.). The poor model fit for the four variables that were likely to be interrelated was unexpected.

However, Meyer et al. have previously demonstrated that each of the organizational culture factors have discriminant validity (although this was less distinct between the Affective and Normative factors). While the Affective and Normative factors loaded adequately within the aggregated model of workplace outcomes, the Continuance factor may have been too distinct. With the removal of the Continuance factor (see Appendix C), there was a notable shift toward a single factor solution. Therefore the validity of Meyer et al.'s assertions of the distinctness of the Continuance commitment factor is concordant with the study results. Unfortunately, the adequate model fit when loading both the Affective and Normative commitment factors onto the same factor conflicts with Meyer et al.'s discriminant validity findings. While Continuance commitment appeared to be distinct enough to avoid inclusion in the GWS variable, the remaining four variables must have shared a commonality, otherwise the model fit indicators would have been less sufficient. Further analysis of the lack of discrimination between Affective and Normative Organizational Commitment may be required in future studies. Despite the questions related to the loading of Affective and Normative commitment on GWS, the GWS variable was validated as a well fitting and internally reliable criterion variable. As a result, its validity in analyses comparing the diverging influences of the culture factors appeared to be adequate.

The IP data for culture factors predicting GWS had mixed support from previous literature. The significant predictors of Hierarchy and Market culture preferences indicating GWS replicated past research (Balthazard, et al., 2006; Berson, et al., 2008). A salient finding regarding the individual-level analyses was the differences of the significant predictors included in the HMRA and MLM analyses. Clan culture was a significant positive predictor in the HMRA analysis, but was not a significant predictor in the following MLM analysis. This may be indicative of a Type I error on behalf of the HMRA analysis. The MLM method provided greater accuracy in estimating standard error due to its inclusion of between groups variance (Heck, Thomas, & Tabata, 2010). Additionally, it allowed for a proportion of variance within GWS to be accounted for by between-groups differences, which in this analysis was the differences between organizations. It was possible that the recalculated standard error had recalculated the Clan factor from a position of statistical significance to that of statistical non-significance. Additionally, the variability in GWS was diminished after accounting for the between-groups variance. As a result, the Clan factor was unable to significantly account for the variability in GWS values within the remaining pool of accountable variance. Accordingly elements of the HMRA/MLM analyses were

indicative of a Type I error for the HMRA approach. It appeared that Clan culture was a spurious predictor of GWS, after accounting for between-organizational variability.

The remaining hypotheses covered the influence of organizational culture factors on the GWS criterion variable. Specifically, the directionality and significance of the culture factors was inconsistent between the individual and perceived organizational preferences data. The perceived organizational preferences data produced significant predictors for the Clan, Adhocracy, and Market factors. The significant predictors supported previous culture findings with regard to the Clan and Adhocracy-style culture, as they were a beneficial influence on the forms of organizational outcomes included within the GWS criterion variable in previous research (Burke, 2002; Gregory, et al., 2009; Yiing, 2009). Additionally, findings regarding the negative associations between Market-style cultures and GWS were also supported (Balthazard, et al., 2006).

The non-significant OP regression findings for the Hierarchy culture factor, despite a significant correlation between GWS and Hierarchy culture is an interesting finding in light of previous research. For example, Berson et al. (2008) presented findings that indicated bureaucratic organizational culture preferences were significantly related to job satisfaction and organizational efficiency. One possibility for this contradiction in findings could be due to the problems discussed previously with regard to the less than acceptable internal reliability of the Hierarchy culture. As previously inferred, a possible degree of ambiguity regarding the manner in which the organization reacts in accordance to the hierarchy cultural archetype (Martin & Meyerson, 1988) could be diminishing any inferences made using the variable. Additionally, a sample-specific anomaly may have influenced the HMRA/MLM findings regarding the association of Hierarchy culture and GWS. Considering that my study sampled only local government and private healthcare employees, there may be a lack of influence of 'Hierarchy' factors due to heavily standardised methods of work due within the organizations. Given that these cultural aspects may be taken for granted within these organizations, and may be so embedded within employee assumptions, attributing any kind of influence of Hierarchy on GWS may be exceedingly difficult. Despite the incongruence of the Hierarchy culture findings with previous literature, the remaining significant findings added further support regarding the influence of certain cultural preferences on workplace outcomes.

In general, the patterns that have emerged from the data are similar to those anticipated in the hypotheses. However complete support for the hypotheses was not gathered from either the perceived organizational perception data or the individual perception data. Of overall importance was that the pattern of significant predictors were

largely inconsistent. Clan, Adhocracy, and Market cultures were significant predictors of GWS for perceived organizational data, while Market and Hierarchy cultures were significant predictors within the individual-level data. The only consistency between both sets of data is the overlap of Market culture being a significant negative predictor. It would seem that within this sample, a preference for aspects of culture representative of a Market culture by either the individual or organization was associated with poorer workplace satisfaction. As discussed in the methodological limitations to follow, there is a chance that these results may be indicative of the type of sample used in my study.

Secondly, comparisons between the individual and perceived organizational preferences for culture indicated that the perceived organizational level data appeared to predict GWS in a much greater manner than individual-level data. The OP data model had a very large effect size according to Cohen's (1992) conventions, while the IP data had a small-to-moderate effect size when predicting GWS. It would therefore seem that perceived organizational preferences for culture, when compared to individual level preferences, are far more important when predicting workplace satisfaction. This is sensible when considering Hofstede's (1998) proposed aspect of organizational functioning that culture can only operate at the organizational level, and is difficult to conceptualise at the individual level. Individual preferences appear to have a small impact on organizational outcomes. Therefore it is possible that previous attention given to individual level preferences, and how well they mesh with that of the organization, may not be quite as important as the P-O fit school of thought would suggest. GWS is most influenced by the individual's perceptions of the organization's preferences regarding culture. Testing for congruence between individual and perceived organizational preferences will be conducted in a later study to examine whether this argument is supported.

8.5.3. Methodological Limitations. The characteristics of the sample itself were likely to be influential in the partial support for the reciprocal opposition approach to the CVF (Cameron & Quinn, 1999, 2006) and its influence on GWS. There was a negative influence by Market culture for both individual and perceived organizational level data on GWS. What this may be indicative of is that Market culture may not necessarily be 'bad'; it may just be considered unfavourable by the participants who took part in the study. The participants were sourced from private health care and local government, which may not be favourable domains to find a preference for hard-driving competitiveness, or sheer concern with profitability. As a result, preferences for market culture may not necessarily be consistently negative to generalised workplace satisfaction. Instead, this may be the case only for organizations similar to the sampled type. This possibility served as a

cautionary aspect to future studies examining culture, as sampling within one strata of occupations may have limited validity beyond their sampled occupations.

8.5.4. Culture Analyses Conclusion. Based on the broadly successful validation of the OCAI (Cameron & Quinn, 1999, 2006), the measure was regarded as a viable method of assessing organizational culture. The four factors of culture (Clan, Adhocracy, Hierarchy, and Market) were all successfully validated as part of the larger model. The Generalised Workplace Satisfaction criterion variable was also successfully extracted as a unidimensional measure with acceptable internal reliability.

When assessing the influence of individual and perceived organizational preferences for the four culture factors in accounting for GWS, a varying pattern of significant culture predictors was presented. Market culture preferences were a consistent significant negative indicator of GWS. The Clan, Adhocracy, and Hierarchy culture preferences had varying predictive strength when comparing the individual and perceived organizational preferences analyses. However, all three culture factors had positive coefficient directions with regards to GWS when significant. The Clan culture factor was downgraded from statistically significant to statistically non-significant for individual preference data once between-groups variance was accounted for in the MLM analysis. It therefore appeared that the relationship between Clan culture preferences and GWS at the individual level may have been spurious if between-groups variability was not taken into account. This reinforces the importance of accounting for between-groups variability in the criterion variable.

The validation of the OCAI item-factor loadings, the GWS variable, and the significant influence of culture preferences on workplace outcomes is generally concordant with past literature. When comparing the results of the individual preferences and perceived organizational preferences models, the organizational preferences models accounted for comparatively greater variance in GWS. As a result it appeared that organizational preferences for culture were a more important indicator of workplace outcomes than the preferences of the individual. On a methodological point, the probability of diminished preferences for Market cultures in the sampled organizations is a possible study limitation. In summary, the CVF culture factors were significant indicators of workplace satisfaction at both the individual and perceived organizational preferences levels.

CHAPTER 9: VALUES RESULTS

This results chapter will present analyses pertinent to the second study objective. The second objective focuses on the validation of the four factor values model of Finegan (2000), in addition to investigating the values-outcomes relationships that exist between these four factors and GWS. Section 9.1. presents details regarding the validation of the four factor values model via confirmatory factor analysis. The results of the HMRA and MLM testing of the values-outcomes links is presented in Section 9.2. Lastly, Section 9.3. presents the discussion related to these analyses.

9.1. Objective Two Results: CFA Testing of Values Model

9.1.1. Individual Values Preferences. All assumptions were validated as per the previous culture-based factor analyses, and no violations were found. A unifactor model of values was first tested. The unifactor model loaded all 37 values indicators onto a single factor representative of individual-level values preferences in general. The unifactor model fit was not considered adequate for model fit (see Table 24). The *CFI* of the unifactor was considered too low for acceptable fit, $.72 < .90$, in addition to the excessive *RMSEA* and *NC* statistics. Therefore the four factor model was considered viable for testing in the absence of an adequate or near-adequate fitting unifactor model.

Table 24.

Comparisons of Fit Indices Between the Unifactor and Hypothesised Models for Individual Values Preferences.

	<i>df</i>	χ^2	<i>p</i>	<i>NC</i> ^a	<i>SRMR</i> ^b	<i>CFI</i> ^c	<i>RMSEA</i> ^d	90% <i>CI</i> ^e
Unifactor	629	2327.56	.001	3.7	.10	.72	.12	.11-.12
Four Factor	623	2275.20	.001	3.65	.093	.84	.09	.09-.09
Revised Model 1	554	1978.80	.001	3.57	.093	.85	.09	.08-.09
Revised Model 2	554	1769.40	.001	3.12	.091	.87	.08	.08-.09
Revised Model 3	554	1628.14	.001	2.94	.083	.89	.08	.07-.08
Revised Model 4	554	1569.81	.001	2.83	.080	.90	.07	.07-.08
Δ Unifactor- Revised 4	75	757.75	.001					

Note. ^a Normed Chi-Square. ^b Standardised Root Mean Square Residual. ^c Comparative Fit Index. ^d Root Mean Square Error of Approximation. ^e 90% Confidence Interval for *RMSEA*.

The four factor model of individual preferences for values loaded the indicators onto their hypothesised factors as presented in Figure 11. The initial iteration of the four factor model did not demonstrate acceptable levels of fit to validate the hypothesised model, as presented in Table 24.

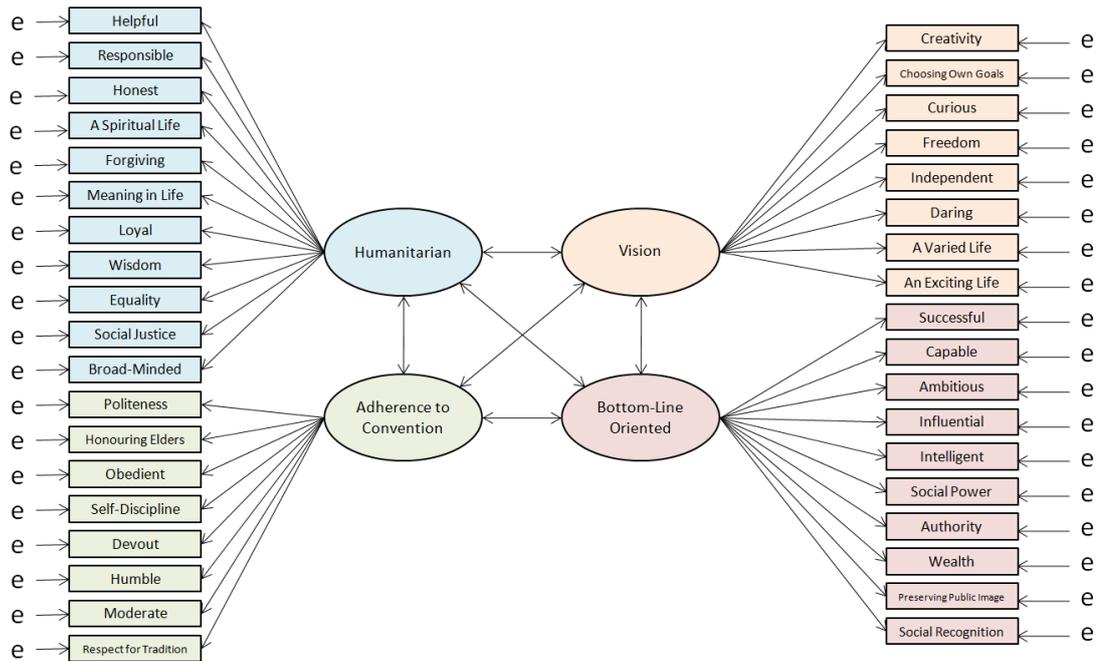


Figure 11. Hypothesised indicator loadings on four factor model of values.

An examination of poorly loading indicators highlighted that both the items A Spiritual Life (.18), and Capable (.34), were below a preferred minimum loading of .40 on the Humanitarian and Bottom-Line Oriented factors respectively. These indicators were removed from the model, and the respecified model was reanalysed. Following the reanalysed model, the fit indicators were not representative of adequate fit (see Table 24, Revised Model 1). A combined theoretical and statistical examination of items that required reapportionment from their initial factor to another, better fitting factor was then conducted. Model modification indices suggested that shifting the values item Intelligent from the Bottom-Line Oriented values factor to the Humanitarian factor would improve model fit. Given that this item was described as "Bearing sound knowledge, or good reasoning", this did appear to be a conceptual match within the broad-mindedness / wisdom basis of the Humanitarian factor. A respecified model of values that mapped the Intelligent indicator onto the Humanitarian factor produced an improvement in model fit (see Table 24, Revised Model 2). The considerable drop in the *NC* ratio, as well as the improvement in *CFI*, were encouraging. However the model did not reach the minimum *RMSEA* coefficient value indicative of good model fit, therefore further examination of possible item reconfiguration was conducted.

The next modification-indices recommendation for model improvement was to shift the values item Successful from the Bottom-Line Oriented factor to the Humanitarian factor. Based on the value's description of "Desiring favourable outcomes" within the

questionnaire, this was considered to encompass the possibility of desiring benevolent or personally fulfilling outcomes. Provided that Schwartz and Bardi's (2001) underlying goal that influenced the overarching values of universalism and benevolence was that of self-transcendence, it was feasible to suggest that the desire of favourable outcomes may be focused on the individual's fulfilment. As a result, the Successful indicator was considered acceptably representative of the Humanitarian factor. A similarly weighted suggestion for improving model fit regarded the remapping of the values item Ambitious from the Bottom-Line Oriented values factor to the Vision factor. Given that Ambition can be viewed as desiring new achievements, this was considered a theoretically acceptable revision to the model. The suggested two reconfigurations were applied to the model, which demonstrated a further improvement in model fit (see Table 24, Revised Model 3). While the *NC* ratio and *RMSEA* were acceptable, the *CFI* was marginally under the minimum level of acceptable fit.

A final examination of the model modification indices suggested that the values item Preserving Public Image would improve fit by being mapped onto the Adherence to Convention factor, instead of the Bottom-Line Oriented factor. As the Adherence to Convention factor was representative of prudence and maintaining the status quo, this was regarded as a theoretically acceptable remapping. The final respecified four factor model of values demonstrated adequate fit (see Table 24, Revised Model 4). Figure 12 represents the indicator loadings and factor structure of the final adequately fitting model. Therefore hypothesis 10a, which specified that the four factor values model would be validated as being better fitting than the single factor model, was broadly supported by these results.

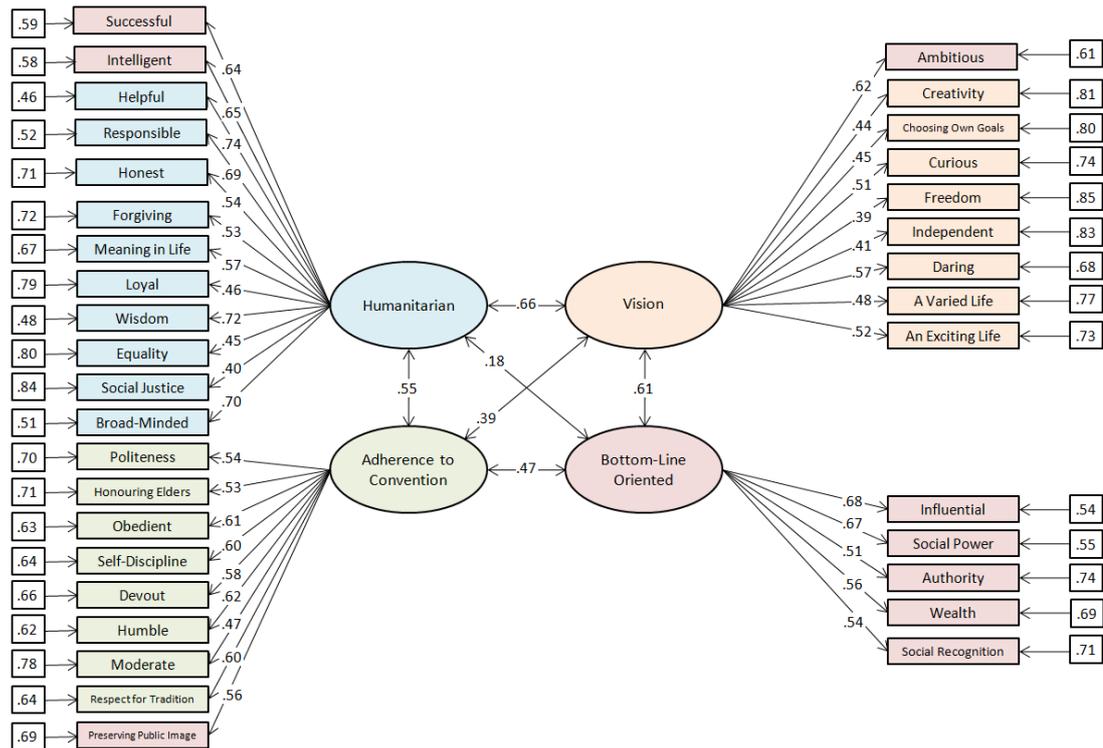


Figure 12. Individual preferences data model of indicator loadings for the four factor values model.

Means, standard deviations, scale range, and reliabilities of the revised four factor model were presented in Table 25. The internal reliability of each factor was acceptable. The high mean of the Humanitarian values factor may have been representative of a ceiling effect, given its proximity to the scale maximum of five. The Vision and Adherence to Convention means were also high, but not as pronounced as Humanitarian values. In summary, the respecified four factor model of values, while requiring the remapping of some values indicators onto factors varying from the hypothesised model, was thematically representative of Finegan’s values model (see Figure 12).

Table 25.

Means and Standard Deviations of IP Values Factors (N = 328).

Values Factor	<i>M</i>	<i>SD</i>	Minimum	Maximum	α
Humanitarian	4.61	.38	1.75	5.00	.86
Vision	4.28	.42	3.00	5.00	.74
Adherence to Convention	4.08	.50	2.22	5.00	.80
Bottom-Line Oriented	3.55	.69	1.40	5.00	.72

9.1.2. Perceived Organizational Values Preferences. The final CFA conducted in my study involved the validation of the hypothesised four factor values model for the OP data. Assumptions prior to conducting the CFA were validated as previously described in

the culture CFA methodology. No violations were noted during the assumption testing prior to the CFA.

Before testing the hypothesised four factor model, a unifactor model that loaded all indicators onto a general factor of organizational values preferences was created. The unifactor model of values for the organizational-level data was not an acceptable fit, as presented in Table 28. The unifactor model approached near-good fit for both the *CFI* and *SRMR* coefficients. However, the large *RMSEA* and *NC* ratio indicated that it was a poorly fitting model, which prompted the testing of the hypothesised four factor model for improvements in model fit.

Table 26.

Comparisons of Fit Indices Between the Unifactor and Hypothesised Models of Perceived Organizational Preferences for Values.

	<i>df</i>	χ^2	<i>p</i>	<i>NC</i> ^a	<i>SRMR</i> ^b	<i>CFI</i> ^c	<i>RMSEA</i> ^d	90% <i>CI</i> ^e
Unifactor	629	2941.78	.001	4.68	.08	.89	.11	.10-.11
Four Factor	623	2263.45	.001	3.63	.08	.92	.09	.09-.09
Revised Model 1	554	1935.03	.001	3.49	.07	.93	.09	.08-.09
Revised Model 2	554	1782.73	.001	3.22	.08	.93	.08	.08-.09
Revised Model 3	554	1707.66	.001	3.08	.07	.94	.08	.08-.08
Revised Model 4	554	1690.97	.001	3.05	.07	.95	.08	.07-.08
Δ Unifactor- Revised4	75	1250.81	.001					

Note. ^a Normed Chi-Square. ^b Standardised Root Mean Square Residual. ^c Comparative Fit Index. ^d Root Mean Square Error of Approximation. ^e 90% Confidence Interval for *RMSEA*.

The four factor model of values for the organizational-level data was tested according to the hypothesised model presented in Figure 11. The hypothesised four factor model did not demonstrate an acceptable level of fit, as indicated in Table 26. It is interesting to note that, in a similar pattern to that of the unifactor model, both *CFI* and *SRMR* were adequate in the hypothesised four factor model, but the *RMSEA* and *NC* ratio disqualified the model from being acceptable. Investigating poorly loading indicators, both Wealth (.14) and Influence (.13) were considered poor indicators of the Bottom-Line Oriented factor. These indicators were subsequently removed, and a respecified model was experimentally tested. The respecified model demonstrated an improvement in fit (see Table 26, Revised Model 1), but was not considered an adequate indicator of good fit.

To further improve the model and its degree of fit for the perceived organizational preferences data, reconfiguration suggestions from LISREL's model modification indices were taken into account. Again, consideration of the modification indices was conducted in a theoretically sound manner, such that any suggested remapping required theoretical

justification. Modification indices suggested that the values item Meaning in Life should be remapped onto the Vision factor from the Humanitarian factor. Given that Meaning in Life's help description was "Striving for purpose in life", this reconfiguration was considered theoretically concordant with the Vision factor's focus of avoiding stagnation, and exploring new boundaries. The striving for purpose in life, therefore, could be sought out by exploring new possibilities and testing boundaries. Therefore the values item Meaning in Life was remapped onto the Vision factor. An improvement in model fit was gained from the respecification, (see Table 26, Revised Model 2), however the model still did not have acceptable levels of fit.

The next most theoretically justifiable reconfiguration of the item-factor loadings involved the values indicator Politeness, and its reappropriation from the Adherence to Convention factor to the Humanitarian factor. That change was also considered acceptable, given the theme of consideration for others within the Humanitarian factor. Again, this produced a slight gain in model fit as presented in Table 26 (see Revised Model 3). However, a further reduction in *RMSEA* and its associated confidence interval upper boundary was required to consolidate good model fit.

In a final reconfiguration of the values model, the Devout indicator was remapped from the Adherence to Convention factor to the Bottom-Line Oriented factor. The help description for Devout consisted of "being devoted or earnest towards goals or groups". Devotion in this instance appeared to have been interpreted in terms of being hard-working, applying effort, and demonstrating conviction towards the workplace's goals. It did not appear to have been considered in terms of the spiritual connotations it had been included to reflect within the traditionalist Adherence to Convention factor. Therefore it appeared that the values indicator Devout was more applicable as being representative of the Bottom-Line Oriented factor. The final respecification to the model produced an adequate level of model fit, as presented in Table 26 (see Revised Model 4). Loadings of the items on four factors are presented in Figure 13. Hypothesis 10b was therefore broadly supported by the CFA results, as the four factor values model presented better fit in comparison to the single factor model as predicted.

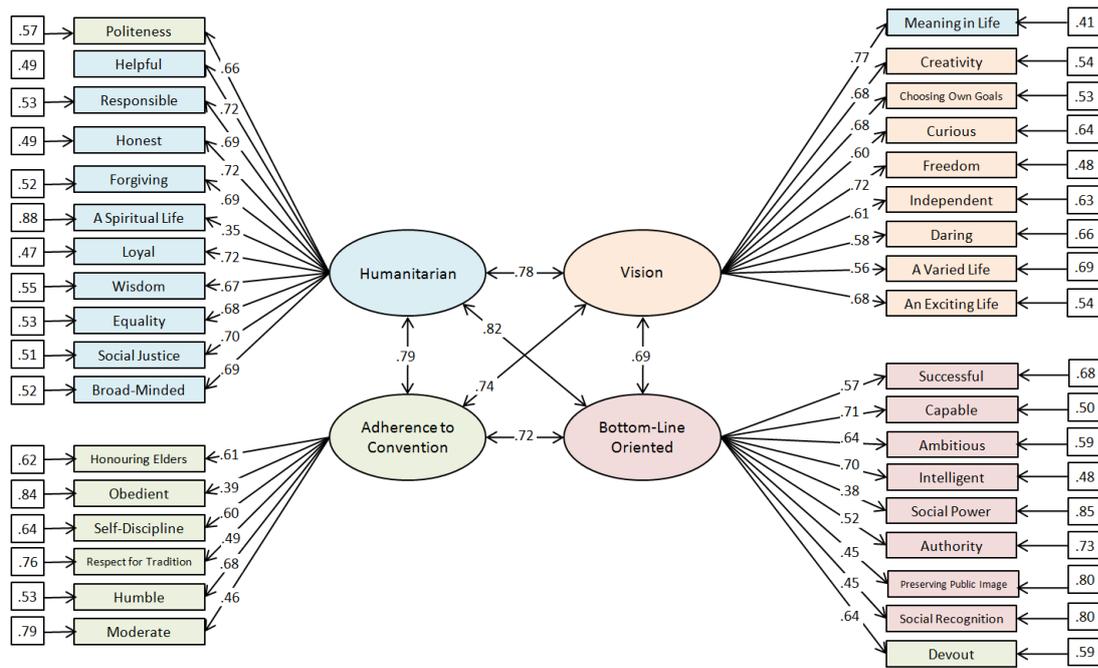


Figure 13. Perceived organizational preferences data model of indicator loadings for the four factor values model.

In summary, the four factor model for values was broadly validated for the OP data. However it should be noted that the indicator loadings on specific factors were not identical to that of the individual-level model. Both models had thematically similar factors to the hypothesised four factor model, therefore the CFA appeared to have broadly validated Finegan’s (2001) four factor model of values for both individual and perceived organizational preferences data. These findings additionally provide support for the second study objective, which sought to investigate the validity of the four factor values model. Means, standard deviations, scale ranges, and internal reliabilities are presented in Table 27. Contrary to the previous means for the IP data, the means for the OP data appear to be less high. The ordering of the highest means was also different, with Bottom-Line Oriented values having the highest mean for the OP data. As indicated in Table 27, the derived factors from the four factor values model involving organizational-level data had adequate reliability for use in further analyses ($\alpha > .70$).

Table 27. Means and Standard Deviations of Perceived Organizational Preferences for Values Factors.

Values Factor	M	SD	Minimum	Maximum	α
Humanitarian	3.94	.72	1.55	5.00	.89
Vision	3.40	.72	1.33	5.00	.87
Adherence to Convention	3.79	.60	1.67	5.00	.72
Bottom-Line Oriented	4.08	.57	1.67	5.00	.81

9.2. Objective Two Results: HMRA and MLM Analyses of Values Predicting GWS

9.2.1. General Checks and Assumptions. The assumptions examined prior to the MLM analyses conducted in the following section were equivalent to that of the culture-related MLMs. Again, due to the smaller sample sizes at some of the sampled organizations, the REML method of model estimation was employed instead of ML (Heck et al., 2010). As the number of unique organizational groups employed in the analyses was ≤ 10 , it was concordantly viable to test for random effects in the experimental model (Snijders & Bosker, 1999). Normality was violated according to Shapiro-Wilk statistics for each of the four values factors. Algebraic transformations and reflections of data were then conducted. Humanitarian values were inverted, Adherence to Convention and Bottom-Line Oriented values had a square root transformation, and Vision values had a \log_{10} transformation applied. The transformed factor variants improved skewness/kurtosis statistics to more acceptable levels, and were included in future analyses. Both individual and perceived organizational values preferences data is presented in Table 28.

Table 28.
Pre and Post Algebraic Transformation Skew and Kurtosis Coefficients for Values Factors ($N = 328$).

Values Factor	Pre Skew (SE)	Pre Kurtosis (SE)	Post Skew (SE)	Post Kurtosis (SE)
Humanitarian (Ind)	-2.646 (.135)	15.270 (.268)	-.191 (.135)	-.746 (.268)
Vision (Ind)	-.313 (.135)	-.228 (.268)	-.033 (.135)	-.505 (.268)
Adherence to Convention (Ind)	-.322 (.135)	.157 (.268)	.041 (.135)	-.237 (.268)
Bottom-Line Oriented (Ind)	-.288 (.135)	-.119 (.268)	.098 (.135)	-.198 (.268)
Humanitarian (Org)	-.948 (.135)	.624 (.268)	-.187 (.135)	-.490 (.268)
Vision (Org) ^a	-.188 (.135)	-.449 (.268)	-.188 (.135)	-.449 (.268)
Adherence to Convention (Org) ^a	-.206 (.135)	-.124 (.268)	-.206 (.135)	-.124 (.268)
Bottom-Line Oriented (Org)	-.890 (.135)	1.184 (.268)	-.064 (.135)	-.280 (.268)

Note. ^a Unchanged, no improvement found via algebraic transformation.

Due to the possible variations in multivariate outliers as a result of the variations in entered predictors, detection of multivariate outliers via Mahalanobis' and Cook's distances are discussed prior to each analysis. Residual outlier detection via standardised residuals was also addressed on a per-analysis basis.

9.2.2. Additional Individual Preferences Values Assumption Testing. Prior to conducting the HMRA and MLM analysis of IP values predicting GWS, a preliminary HMRA was conducted to check for residual/multivariate outliers. Two cases presented Mahalanobis' distances greater than the critical χ^2 ($df = 6$) = 22.46, and were removed from the upcoming analyses due to their additionally significant Cooks' distance.

9.2.3. HMRA Analysis of Individual Preferences Values Predicting GWS. As

described by Heck et al., it was useful to conduct an HMRA prior to conducting an MLM to see if there are any variations in the explanatory model once between-groups variance had been accounted for. A preliminary correlation between all entered variables in the HMRA is presented in Table 29.

Table 29.

Correlations Between Individual Preferences Predictors Used in HMRA/MLM Analyses ($N = 327$).

	Humanitarian	Vision	AdCon ^a	Bottom ^b	Occ ^c Tenure	Org ^d Tenure
GWS	.249 ^{***}	.072	.277 ^{***}	.111 [*]	.145 ^{**}	.109 [*]
Humanitarian		.522 ^{***}	.577 [*]	.230 ^{***}	.098	.097
Vision			.327 ^{***}	.473 ^{***}	-.065	-.157 ^{**}
AdCon ^a				.392 ^{***}	.001	.147 ^{**}
Bottom ^b					.045	-.040
Occ ^c Tenure						.585 ^{***}

Note. ^a Adherence to Convention, ^b Bottom-Line Oriented, ^c Occupational, ^d Organizational, * $p < .05$, ** $p < .01$, *** $p < .001$.

To conduct the HMRA, the two demographic control variables Organizational and Occupational Tenure were entered in the first block of predictors. The individual preferences for the four values factors (Clan, Vision, Adherence to Convention, Bottom-Line Oriented) were entered in the following step. The aggregated GWS variable was used as the criterion variable.

The first step of the HMRA analysis indicated that control variables accounted for 3.3% of the variance in GWS, $F(2, 322) = 5.58$, $p = .004$, $R^2 = .033$. As presented in Table 30, Occupational Tenure was a significant predictor of GWS in the first step, $sr^2 = .015$. The second step of the HMRA indicated a significant change in model adequacy, $\Delta F(4, 318) = 7.37$, $p = .001$, with $\Delta R^2 = .082$. As presented in Table 30, both the Humanitarian and Adherence to Convention values factors were significant predictors of GWS, while Occupational Tenure became non-significant in the second step. The overall model was significant, $F(6, 318) = 6.92$, $p = .001$. The degree of variance explained by the overall model was $R^2 = .12$, or approximately 11.6% of the variability in GWS was accounted for by the predictors in unison. This represented an effect size of $f^2 = .13$, which represents a small-moderate indicator of effect size according to Cohen's (1988) conventions. The calculated proportionate drop-off in R^2 values when generalised to the population was moderate: $R^2_{(dropoff)} = .147$, or 14.7%. In summary, two of the individual preference values factors were significant predictors of the GWS, however this was considered a small-moderate effect.

Table 30.Unstandardised and Standardised Coefficients for Individual Values Preference Predictors and Control Variables when Predicting GWS ($N = 325$).

	<i>B</i>	<i>SE</i>	β	sr^2	R^2	<i>p</i>
First Block						
Occupational Tenure	.043	.019	.150	.015		.026*
Organizational Tenure	.024	.032	.050	.002		.457
Δ					.033	.004**
Second Block						
Occupational Tenure	.03	.019	.12	.009		.068
Organizational Tenure	.01	.031	.01	.000		.829
Humanitarian Values	3.11	1.427	.16	.013		.030*
Vision Values	-2.35	1.392	-.12	.008		.093
Adherence to Convention Values	3.22	1.196	.19	.020		.007**
Bottom-Line Oriented Values	.81	.892	.06	.002		.366
Δ					.082	.001***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

9.2.4. MLM Analysis of Individual Preferences Values Predicting GWS. Following the HMRA involving individual preferences for the values factors, an equivalent MLM analysis was conducted to see if there was any variation in the model predicting GWS after accounting for between-organizational variance in GWS. The null model, which employed the same dependent variable of GWS and the between-groups component of organizational origin, was calculated (see Table 31). As the $ICC = .109$ (10.9% of the variability in GWS accounted for by between-group differences), it was considered viable to integrate the between-groups variance in the experimental model. The -2 Restricted Log Likelihood indicated comparable fit to the null model culture MLMs, $\chi^2(1, N = 325) = 1648.94$.

Table 31.Null Model Examining Between-Organization Influence on GWS for Individual Preferences Data ($N = 325$).

	Unstandardised Estimate	<i>SE</i>	<i>df</i>	<i>t</i>	Wald Z	<i>p</i>
Fixed Effects						
Intercept	-.12	.360	10.00	-.32		.753
Random Effects						
Residual	8.95	.713			12.60	.001***
Intercept (Origin)	.96	.568			1.69	.046*

Note. * $p < .05$, *** $p < .001$.

The experimental model of individual values preferences was entered in an analogous pattern to that of the HMRA. Occupational and Organizational tenure were entered in the first block of predictors, while the four values factors were entered in the second block of predictors. GWS was employed as the criterion variable. The effect of between-groups variability attributed to organizational differences was entered as a random predictor. For the first model, involving the control variables of organizational and occupational tenure, there was not a significant difference in model fit, $\chi^2(3, N = 325) = 1648.94 - 1642.26 = 6.68, p = .083$. For the second model involving the values predictors, the model had a significant improvement in model fit in comparison to the previous control variable model, $\chi^2(7, N = 325) = 1642.26 - 1617.52 = 24.74, p = .001$. The second model had a significant improvement in comparison to the null model, $\chi^2(7, N = 325) = 1648.94 - 1617.52 = 31.42, p = .001$, indicating that the predictors explained more variance than the null model alone. The coefficients and statistical significance of each of the individual values preferences examined in the experimental MLM model are presented in Table 32.

Table 32.Test of Four Factor Individual Values Model and Control Variables on GWS ($N = 325$)

	UE ^a	SE	df	t	Wald Z	p
First Block						
Fixed Effects						
Intercept	-.11	.360	10.01	-.30		.774
Occupational Tenure	.04	.018	315.51	2.08		.038*
Organizational Tenure	.00	.031	316.90	.10		.919
Random Effects						
Residual	8.76	.698			12.56	.000***
Intercept (Origin)	.97	.568			1.70	.045*
Second Block						
Fixed Effects						
Intercept	-.10	.360	10.04	-.29		.777
Occupational Tenure	.03	.018	315.49	1.80		.073
Organizational Tenure	-.01	.031	316.69	-.32		.749
Humanitarian Values	2.68	1.379	315.61	1.95		.052
Vision Values	-2.12	1.344	315.52	-1.58		.115
Adherence to Convention Values	2.49	1.158	315.43	2.15		.032*
Bottom-Line Oriented Values	1.46	.871	315.42	1.68		.094
Random Effects						
Residual	8.10	.645			12.56	.000***
Intercept (Origin)	.99	.567			1.74	.041*

Note. * $p < .05$. *** $p < .001$. ^a Unstandardised Estimate.

In the experimental model solution presented in Table 32, only one significant predictor emerged: Adherence to Convention Values. This is a deviation from the HMRA solution that involved these variables, as Humanitarian values were an additional significant predictor of GWS in that solution. There was both a drop-off in the unstandardised estimate of the humanitarian values ($3.11 > 2.68$), and the standard error of the variable ($1.43 > 1.38$). This indicated that the between-groups variance accounted for in the MLM has reduced the predictive impact of this values factor. The amount of within-groups variance predicted by the MLM experimental model, $R^2 = .095$ or 9.5% of the variance in GWS, indicated a small-moderate effect size according to Cohen's (1988) coefficient, $f^2 = .10$. The between-groups variance again indicated a negative R^2 change due to better estimation of the intercept upon the addition of the predictors (Heck et al., 2010), $R^2 = -.031$ or -3.1%. The between-groups variance was also considered significant (Wald $Z = 1.74$, $p = .041$, one-tailed). As the goal of my study was to control for the between-groups variance in predicting GWS, this change in explanatory variance was not considered problematic.

In summary, only Adherence to Convention values preferences were found to be significant with regards to predicting GWS in the MLM model, which is a deviation from the solution provided by HMRA. Hypothesis 11a appeared to have mixed support due to these findings, as Humanitarian values' non-significance in the MLM analysis contrasted with the significant preliminary correlation findings presented in Table 30. Hypotheses 12a and 14a, which predicted significant associations between GWS and the Vision and Bottom-Line Oriented values factors respectively, were not supported by these results. Hypothesis 13a was supported, as Adherence to Convention values were a statistically significant predictor of GWS. Lastly Hypothesis 15 was partially supported by these results, as the Humanitarian values factor was non-significant following the accounting of between-organizational variability in GWS during the MLM analysis. Mixed findings regarding the values-outcomes associations examined as part of the second study objective were therefore evident.

9.2.5. Additional Perceived Organizational Preferences Values Assumption

Testing. Adjustments of the values factors to reduce issues with skewness and kurtosis were produced via algebraic transformations, as presented in Table 28. Three cases were excluded from the upcoming analysis due to significant Mahalanobis and Cook's distances, leaving 324 participants involved in the analyses.

9.2.6. HMRA Analysis of Perceived Organizational Preferences Values Predicting

GWS. In a similar manner to that of the individual preferences model discussed previously, the perceived organizational preferences for values as a predictor of GWS were tested

using both HMRA and MLM. A preliminary correlation between all involved variables is presented in Table 33, which indicated that the correlations between all values factors were very high.

Table 33.

Correlations Between Perceived Organizational Preference Predictors Used in HMRA/MLM Analyses ($N = 327$).

	Humanitarian	Vision	AdCon ^a	Bottom ^b	Occ ^c Tenure	Org ^d Tenure
GWS	.621 ^{***}	.564 ^{***}	.429 ^{***}	.444 ^{***}	.145 ^{**}	.109 [*]
Humanitarian		.736 ^{***}	.672 ^{***}	.672 ^{***}	.023	.066
Vision			.551 ^{***}	.561 ^{***}	.084	.041
AdCon ^a				.596 ^{***}	.006	.074
Bottom ^b					.080	.077
Occ ^c Tenure						.585 ^{***}

Note. ^a Adherence to Convention, ^b Bottom-Line Oriented, ^c Occupational, ^d Organizational, * $p < .05$, ** $p < .01$, *** $p < .001$.

In the first block of predictors, the control variables Organizational and Occupational Tenure were loaded. In the second block, the perceived organizational preferences for the values factors were loaded.

The first step of the HMRA was significant, $F(6, 321) = 5.56$, $p = .004$, with $R^2 = .033$ or 3.3% of the variance in GWS scores attributable to the control variables. The second step of the MRA was also significant, $\Delta F(4, 317) = 56.42$, $p = .001$, with $\Delta R^2 = .402$ or 40.2% of the variance in GWS was attributable to the perceived organizational preferences for values factors. The overall model was statistically significant, $F(6, 317) = 40.74$, $p = .001$, with $R^2 = .435$ or 43.5% of the variance in GWS. This was considered a very large effect size by Cohen's (1988) conventions, $f^2 = .77$. The calculated proportionate dropoff in R^2 values when generalised to the population was minor: $R^2_{(dropoff)} = .023$, or 2.3%. The Humanitarian and Vision values were significant predictors of GWS, as was Occupational Tenure, as indicated in Table 34.

Table 34.

Unstandardised and Standardised Coefficients for Perceived Organizational Values Preference Predictors and Control Variables when Predicting GWS ($N = 324$).

	<i>B</i>	<i>SE</i>	β	sr^2	R^2	<i>p</i>
First Step						
Occupational Tenure	.04	.019	.15	.015		.025 [*]
Organizational Tenure	.02	.032	.050	.002		.473
Δ					.033	.004 ^{***}
Second Step						
Occupational Tenure	.04	.015	.13	.011		.014 [*]

Organizational Tenure	.00	.025	.01	.000	.908
Humanitarian Values	10.56	1.633	.49	.075	.001***
Vision Values	.90	.276	.21	.019	.001***
Adherence to Convention Values	-.07	.311	-.01	.000	.814
Bottom-Line Oriented Values	-.16	1.498	-.01	.000	.917
Δ				.402	.001***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

9.2.7. MLM Analysis of Perceived Organizational Preferences Values Predicting

GWS. To determine whether these results are consistent when between-groups variance was taken into account, an MLM analysis of the same model was conducted. Due to the change in participant totals between the previously conducted individual preferences model, and the current perceived organizational preferences model, the recalibrated null model is presented below in Table 35. The -2 Restricted Log Likelihood indicated comparable fit to the null model for the individual preferences MLM however, $\chi^2(1, N = 324) = 1640.78$.

Table 35.

Null Model Examining Between-Organization Influence on GWS for Perceived Organizational Preferences Data ($N = 324$).

	Unstandardised Estimate	SE	df	t	Wald Z	p
Fixed Effects						
Intercept	-.10	.369	10.06	-.28		.786
Random Effects						
Residual	8.85	.706			12.54	.000***
Intercept (Origin)	1.02	.594			1.72	.043*

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

The experimental model applied control variables of occupational and organizational tenure, and the four values factors, as fixed factors in predicting GWS, with the between-organization effects applied as a random predictor. Two models were processed to replicate the two block HMRA conducted previously. The control variable model did not add a significant amount of model fit improvement, $\chi^2(3, N = 324) = 1640.78 - 1634.33 = 6.45$, $p = .092$, see Table 36. The experimental model predicted GWS more sufficiently than the control variable model, $\chi^2(7, N = 324) = 1634.33 - 1480.80 = 153.53$, $p = .001$. The second model was also significantly different to the null model in predicting GWS, $\chi^2(7, N = 324) = 1640.78 - 1480.80 = 159.98$, $p = .001$. Again, Humanitarian and Vision

Values, as well as Occupational Tenure, were significant predictors of GWS as presented in Table 36.

Table 36.

Test of Four Factor Perceived Organizational Values Model and Demographic Predictors on GWS.

	UE ^a	SE	df	t	Wald Z	p
First Block						
Fixed Effects						
Intercept	-.09	.368	10.06	-.25		.804
Occupational Tenure	.04	.018	314.52	2.10		.036*
Organizational Tenure	.00	.031	315.90	.00		.997
Random Effects						
Residual	8.67	.692			12.54	.000***
Intercept (Origin)	1.02	.593			1.73	.042*
Second Block						
Fixed Effects						
Intercept	-.12	.367	10.20	-.34		.744
Occupational Tenure	.03	.015	314.41	2.35		.019*
Organizational Tenure	.01	.025	315.49	.23		.822
Humanitarian Values	10.71	1.686	314.38	6.35		.001***
Vision Values	.93	.275	314.42	3.39		.001***
Adherence to Convention Values	-.17	.311	314.40	-.55		.582
Bottom-Line Oriented Values	-.66	1.471	314.41	-.45		.654
Random Effects						
Residual	5.32	.424			12.54	.000***
Intercept (Origin)	1.14	.593			1.92	.027*

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. ^a Unstandardised Estimate.

Regarding the experimental model, the amount of within-groups variance explained by the predictors was large, $R^2 = .399$, or 39.9% of the variance in GWS. This value corresponded to a Cohen's (1988) $f^2 = .66$, which represented a large effect size. It was worth noting that the amount of between-groups variance was significant in the experimental model, as was the case with the individual preferences analysis. In this instance, the HMRA results and the MLM results were comparable. The Humanitarian and Vision values, in addition to Occupational Tenure, were significant predictors of GWS. When comparing the individual-level and perceived organizational preferences models, there was a gulf of explained variance by the significant predictors. The perceived organizational preferences model explained greater amounts of variance in GWS than the individual-level model did. Therefore it appeared that the organizational preferences for values were more

viable in accounting for GWS, mirroring the relationship between the levels of analysis and the culture analyses previously conducted.

Hypotheses 11b and 12b, which predicted that Humanitarian and Vision values for OP data would be significant predictors of GWS, were both supported in the previous analyses. Hypotheses 13b and 14b had mixed support. While Adherence to Convention and Bottom-Line Oriented values had significant correlations with GWS in the preliminary correlation presented in Table 33, the following HMRA/MLM analyses did not indicate statistically significant relationships with the criterion variable. Therefore support for these hypotheses, which suggested that OP Adherence to Convention and Bottom-Line Oriented values will be significantly associated with GWS, is divided. As the HMRA/MLM take into account shared variance, these hypotheses are more likely to be not supported rather than supported. Lastly, hypothesis 15 was supported by the OP analyses, as no variations in statistically significant indicators between the HMRA and MLM analyses were found.

9.3. Values Discussion.

9.3.1. Examination of Hypotheses. Prior to discussing the findings of the values-based analyses, Table 37 summarises the results relevant to my study's second objective.

Table 37.

Summary of the Testable Hypotheses Relevant to my study's Second Objective.

Hypothesis Number	Description	Supported
10a	The item-factor structure for the FFVM (Finegan, 2000) for the employee preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.	Partial
10b	The item-factor structure for the FFVM (Finegan, 2000) for the perceived organizational preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.	Partial
11a	Individual preferences for Humanitarian values will positively account for significant unique variance in GWS.	No
11b	Perceived organizational preferences for Humanitarian values will positively account for significant unique variance in GWS.	Yes
12a	Individual preferences for Vision values will positively account for significant unique variance in GWS.	No
12b	Perceived organizational preferences for Vision values will positively account for significant unique variance in GWS.	Yes
13a	Individual preferences for Adherence to Convention values will account for significant unique variance in GWS.	Yes
13b	Perceived organizational preferences for Adherence to Convention values will account for significant unique variance in GWS.	No
14a	Individual preferences for Bottom-Line Oriented values will account for significant unique variance in GWS.	No
14b	Perceived organizational preferences for Bottom-Line Oriented	No

	values will account for significant unique variance in GWS.	
15	Significant values indicators in the HMRA will become non-significant indicators during the equivalent MLM analyses.	Partial

The first part of the second objective examined the validation of the four factor values model by Finegan (2000). Therefore hypotheses 10a and 10b, which suggested that IP and OP data would validate the four factor values model as being superior to the single factor model, were both generally supported during testing. Notably the models were not mirrored across the different perspectives; individual and perceived organizational preferences models converged with different indicators. This was different to the symmetrical model deviations noted for the individual and perceived organizational culture preferences data described in the previous section. While there were indicator-factor variations, the core thematic similarities between both models and that of Finegan were clearly supported. Additionally, both models had sufficient fit criteria, and adequate internal consistency upon evaluation with Cronbach's (1951) alpha. Therefore hypotheses 10a and 10b were broadly supported as part of the analyses.

The second part of the second study objective examined the values-outcomes relationships between the four values factors and GWS. There was mixed support for the hypotheses that stemmed from this objective when considering the IP data values-outcomes relationships. Hypotheses 11a, which predicted the Humanitarian values preferences would be significantly associated with the GWS criterion variable, had mixed support. For the IP data the Humanitarian values factor was not a significant predictor of GWS (albeit marginally, $p = .052$) following the MLM analysis, thereby not supporting hypothesis 11a. After accounting for between-groups variability, Humanitarian values preferences could not explain a significant unique amount of the workplace satisfaction variability. Alternatively the descriptive preliminary correlations between GWS and all entered variables presented in Table 31 demonstrated a significant positive relationship between IP Humanitarian values and GWS. However, as hypothesis 11a specifies significant unique variance being accounted for, it was not supported by the HMRA/MLM analyses.

Hypothesis 12a, which predicted that there would be a significant association between IP Vision values and GWS, was not supported by the analyses. None of the analyses indicated a significant relationship between these variables. Hypothesis 13a, predicting a significant relationship between Adherence to Convention values and GWS, was supported by the analyses. In the last assessment of IP values and outcomes, hypothesis 14a had mixed support. While the HMRA and MLM results found no statistically

significant relationship with GWS, the preliminary correlation indicated a weak but significant correlation with GWS as indicated in Table 29. However, as hypothesis 14a specifies significant unique variance, this hypothesis was concluded to be not supported by the analysis results. In summary, the assessment of IP values-outcomes associations as per the second objective had mixed findings.

Support for the OP values-outcomes relationships as part of the investigation of the second objective was again mixed. Hypothesis 11b, which predicted OP Humanitarian values would be significantly associated with GWS, was supported. Vision values were also significantly associated with GWS as anticipated, providing support for hypothesis 12b. Hypothesis 13b had mixed support based on the results. The HMRA/MLM findings did not indicate any statistically significant relationships between OP Adherence to Convention values and GWS as predicted in the hypothesis, however the preliminary descriptive correlation presented a significant relationship as indicated in Table 33. Therefore the hypothesis was not supported, as the relationship between Adherence to Convention values appeared to be heavily influenced by shared variance with other values factors. Hypothesis 14b was not supported in similar circumstances, as the preliminary significant correlation between Bottom-Line Oriented values and GWS contradicted the later HMRA/MLM findings.

As the last part of the investigation of the values-outcomes relationships examined by the second objective, Hypothesis 15 predicted that there would be a change to non-significance for significant values predictors following the accounting for of between-groups variability. IP Humanitarian values, despite being significant in the HMRA analyses, was assessed as a non-significant predictor of GWS following the examination of between-organization variability. Therefore the hypothesis received partial support in the previous analyses, indicating between-organizational variability in the criterion was an important consideration during the values-outcomes testing that was part of the second study objective.

Repeating the finding from the previously presented culture analyses, the OP data was a greater indicator of workplace satisfaction than the IP data. While 43.5% of the variability in workplace satisfaction was accounted for by the organizational preference predictors in unison, only 11.6% of the variability for the same criterion variable could be accounted for by individual preferences. The perceived organizational preferences for values therefore appeared to be significantly more influential on workplace satisfaction.

9.3.2. Comparisons with Previous Findings. The unexpected finding that the individual preferences data and the perceived organizational preferences data presented

thematically consistent, although indicator disparate, four-factor models was unlike the previous literature. Firstly, the disparities in item structures between the two sets of data raised questions regarding commensurability for individual and perceived organizational-level data for a four factor model of values. In Finegan's (2000) original analysis, one of the data sources was used to extract the four factor model. The four factor summary scales used for both individual and perceived organizational preferences data in her following analyses were created from this solution. However, it was not clear if the four factor structure was represented identically by both sets of data from Finegan's sample. Similarly, Abbott et al.'s (2005) attempted recreation of the four factor model via CFA resulted in a poorly fitting model. While the principal components analysis extracted a three factor solution that was thematically similar to the four factor model proposed by Finegan, it was unclear whether principal components analysis on the alternative set of data would have created an identical extracted model. In Abbott et al.'s study, the three factor extracted model was validated via confirmatory factor analysis for both individual and organizational-level data. Finegan however did not validate the four factor model via CFA following the initial extraction from what was presumed to be a single source of data. Therefore, the divergent factor-indicator configuration between the individual and organizational-level data presented in this study may be indicative of the dissimilarities in values preferences models, based on the perspective from which it is assessed.

The current study's results reflect the results of Abbott et al. (2005) and Finegan (2000) in the manner in which values factors influenced organizational commitment. Finegan's study indicated that preferences for Humanitarian and Vision values were positively linked to Affective and Normative Organizational Commitment, two variables that are subsumed within the GWS criterion variable. This finding was replicated partially by the current study. Similar findings regarding the relationships between Humanitarian and Vision values preferences and Affective Organizational Commitment were also identified by Abbott et al. Burke and colleagues (Burke, 2001; Burke, et al., 2003, 2005) presented findings that values conducive to improving work/life balance, which were thematically similar to the compassion and autonomy inherent in the Humanitarian and Vision values, were linked to improved perceptions of outcomes within the GWS variable. Therefore the directionality and significance of the Humanitarian and Vision values findings were concordant with past research.

Finegan (2000) found that the linear preferences for Adherence to Convention values were negatively linked to Affective Organizational Commitment. However in the current series of analysis, individual preferences for the Adherence to Convention values

factor were associated with a positive link to generalised workplace satisfaction. This contrasting result may be due to the influence of the other outcome variables subsumed in the generalised measure of workplace satisfaction. As there was no literature identifying the influence of Adherence to Convention values preferences on Job Satisfaction and Turnover Intention, the two non-commitment based variables presented within GWS, it was not clear whether Adherence to Convention values would have a positive link with these outcome variables. If a positive coefficient link between Job Satisfaction / Turnover Intention and Adherence to Convention values preferences exists, then this could explain the reversal of the coefficient direction in the current results. This needs to be investigated as part of future research.

Occupational tenure was noted as a significant control variable of GWS in both the HMRA and MLM analyses for the perceived organizational preferences data. However, unlike Abbott et al.'s (2005) previous study, organizational tenure did not account for statistically significant variance. While the specificity of the form of tenure varied between studies, it was evident that studies investigating the effect of values and organizational outcomes should take into account the period of time participants have worked in their occupation or organization. Examining both forms of tenure was considered to be a methodological advantage in comparison to previous studies, due to its possible reduction of spurious relationships between the values predictors and the criterion.

9.3.4. Theoretical Implications. In the current study, evidence for diverging indicator structures between the individual preferences and perceived organizational preferences data was found. This reinforced the possibility of factor instability previously presented by Abbott et al. (2005) during their test of the four factor model (Finegan, 2000). A dilemma regarding factor commensurability and equivalency across levels of analysis therefore remained when employing the discussed four factor model of values. One reason behind the deviation could be the manner in which perceptions of the self and the organization may be susceptible to differences in perceptual clarity (Kristof, 1996), which may have impeded the confirmation of the four factor model's goodness of fit for both sets of data.

Schein (1990) suggested that organizational culture is a holistically generated construct. Culture incorporates many elements, such as values, practices, artefacts, and iconography, to create a sense of what the organization's culture represents. As this understanding of culture was applied to an organizational entity, there was arguably a degree of distance or *impersonality* when individuals considered their own preferences for forms of organizational culture. When individuals were being asked about their preferences

for organizational culture, hypothetically there was an understanding that their preferences for organizational culture was essentially being applied to some form of organizational entity or context. Their preferences for the way in which the organization approaches problems or prioritises was hypothetically an abstract preference because it was mapped onto a form of an 'ideal organization'. In other words, the employee's preference for how an organization does or does not approach its method of functioning was an indirect representation of the employee as an individual, because these preferences were being applied to an abstract organizational entity. In the consideration of values, however, there is hypothetically a key difference in *distance* between what was involved when being asked about an ideal values preferences, and an ideal culture preferences.

Consideration of what was being assessed when the participant was asked to divulge their preferences for values is important in the understanding of a hypothetical influence on the diverging values models. Rokeach (1973) portrayed values as a deep-seated aspect of the self, something which manifested to various degrees in all functioning. They formed part of the individual's character composition, which aided in determining what an individual represented, and what type of person they were. Due to the importance of values in the formation of self-perception, it is probable that there is a variation in the manner in which the individuals consider values pertaining to themselves, and values pertaining to the organization. I posit that specific response biases may have influenced the diverging values models, due to the manner in which bias would influence a participant's evaluation of their own values preferences. For example, the self-serving bias may be influential on the participant's evaluation of their values. As MacDonald and Standing (2002) have previously discussed, the participants was more likely to present themselves positively instead of negatively when evaluating assessment content. Accordingly values regarded as being 'positive' may have appeared more attractive to the individual's self-rating, thereby increasing their recorded preference for these values. This was evident in the means for IP Humanitarian and Vision values, as both variables had notably high means which may have been reflective of their desirability due to their 'positive' connotations. Additionally the better-than-average effect (Alicke & Govorun, 2005) may have also influenced the values self-assessment. If participants assessed these values as being representative of ideals that place themselves more favourably in comparison to others, then the divergence in values models may be partially explainable by this effect. A salient point made here is the difference in the point of reference between IP values and OP values may therefore provoke differences in how values are evaluated at these levels, due to these biases that are individually-based. A consequence of this difference in evaluation as a

function of reference point may be the diverging values model structures presented in the results.

While these forms of bias are probable influences on the data received regarding individual preferences for values and culture alike, I propose that it had a more salient influence on values data rather than culture data. Theoretically, this difference may be due to the proximity of values and culture measurement to the individual's sense of self. Assessments of ideal organizational culture are arguably distanced from the individual's self concept, as at the core of this judgement is an application of preferred culture on an abstracted organizational entity. For example, a preference for an organizational culture embodying competitiveness and winning to a degree that it marginalises the prospects of benevolence towards employees and autonomy, is ultimately applied to a hypothetical organizational entity. Alternatively, if these preferences were applied to a thematically conducive set of values, the individual may present themselves as an aggressively oriented individual. A preference for values of this form would be discordant with the kinds of values that most humans appear to prefer the most (Schwartz & Bardi, 2001). As a result, it was probable that upon asking questions that were more directly applicable to judgements about the qualities of the individual themselves, a positive self-portrayal augmented by response biases seemed feasible. The deviations in the testing of Finegan's (2000) model consistency between individual and perceived organizational preferences data may therefore be attributed to this divergence in personal applicability.

Alternative explanations of the non-significant results for both the Humanitarian and Vision values factors for individual-level preferences may have been influenced by Schwartz and Bardi's (2001) universality assumptions regarding these predictors. Both of these predictors were initially considered to be important predictors of organizational outcomes on the basis of their similarities with the Clan and Adhocracy cultures of Cameron and Quinn (2006). However, individual preferences for Humanitarian ($SD = .38$) and Vision ($SD = .42$) values had the two lowest values for data variability of all predictors. According to Schwartz and Bardi's assertions for universal preferences, most individuals are expected to have a preference for Humanitarian and Vision values, therefore suggesting lower variability for these factors than for other factors. Paired with the control of between-organizational differences in variability, this may have been a theoretically consistent explanation of the non-significant results for both Humanitarian and Vision values in predicting organizational outcomes.

Furthermore, as a large majority of the employees were sourced from the public sector, this may have reduced variability of preferences for these two predictors. Lyons et

al. (2006) demonstrated that public sector employees had a greater preference for values that benefitted society; as Humanitarian and Vision values are representative of society-benefitting values, variability may predictably be lessened. Compared to the past studies of Finegan (2000) and Abbott et al. (2005), this explanation is plausible. Neither Finegan nor Abbott et al. demonstrated any predictive influence of individual preferences for Humanitarian and Vision values on the three forms of organizational commitment examined in the study. Therefore, due to the lack of variability as a result of a generalised preferences for these types of values for individuals, it is plausible that the results obtained in this analysis were representative of this aspect of Schwartz and Bardi's (2001) values hierarchy predictions.

Lastly, due to the significant correlations between Humanitarian/Vision values and GWS indicated previously, the non-significance of these indicators in the HMRA/MLM analyses could be indicative of a high degree of shared variance between the values indicators. The unique variance was pertinent to the hypotheses regarding the relationships between values and workplace satisfaction, however combined explanatory variance with the other indicators appeared to account for a sizable amount of GWS variability. This finding is therefore cautionary for studies involving the examination of shared variance / correlations as a means of assessing values and workplace outcomes relationships. The unique influence of values predictors may be marginal despite correlation results indicating otherwise.

9.3.5. Methodological limitations. The values inventory, which attempted to improve the consistency in establishing a four factor model of values by using items for Schwartz and Bardi's (2001) inventory as opposed to McDonald and Gandz's (1991) values inventory, presented inconsistent models. A methodological flaw apparent here could be due to the measure itself, as merging thematically appropriate indicators from Schwartz and Bardi's original scale for the purposes of this study was arguably less rigorous than the creation of new items representative of the four factors. The items extracted from Schwartz and Bardi's inventory provided an expedited means of composing a values inventory, that used established indicators, in a role that would theoretically produce factors representative of the four constructs described originally by Finegan (2000). Validation of the diverging values factor structures, depending on the perspective the data is perceived from, may be of interest to investigate for future studies using different indicators.

The key analytical difference between the current study and that of Finegan (2000) and Abbott et al. (2005) is that both regression and multilevel modelling techniques were employed. In doing so, evidence for artificial inflation of a linear predictor (Humanitarian

values) and the resultant prospect of an earlier Type I error was found. This difference in predictive merit on the basis of chosen methodology has interesting implications for the results of Finegan and Abbott et al. in their test of the four factor (and condensed three factor) models of values. While Type I errors cannot be ruled out as a facet of any form of statistical testing (Tabachnick & Fidell, 2007), taking the between-organizational differences into account during testing provided an arguably more realistic presentation of the linear influences of the values factors.

However, there is admittedly a problem of applicability in testing for multilevel confounds when simultaneously attempting to assess non-linear models as per Edwards' (1994) congruence testing methodology. Taking into account between-organizational differences *in addition* to assessing the interactive and quadratic terms of two predictors would prospectively raise new methodological and conceptual difficulties. Conceptually the limitation of the influence of a values factor being considered only in a linear manner may be under representative of the means in which values influence workplace outcomes (Abbott, et al., 2005; Edwards; Finegan, 2000). However, ignoring the influence of intra-organizational variation as a means of artificially inflating the amount of variance accounted for by individual preferences for values appeared to be disingenuous. Therefore the problem of between-groups differences and accurate representation of the predictors is twofold. While my study demonstrated that there was the distinct prospect of Type I error when intra-organizational differences were not calculated, the problem of the applicability of this phenomenon in the face of higher-order analyses must also be considered.

The results of the multi-level modelling (MLM) analyses, which indicated a significant intra-organizational effect in accounting for generalised workplace satisfaction (GWS), posed future areas of analysis when considering the influence of values (and likewise, culture) in explaining workplace outcomes. In the current study, accounting for possible elements of intra-organizational differences in their influence on workplace outcomes was not considered as part of my study's goals. Based on the consistent significant influence of intra-organizational differences in explaining a proportion of variability in outcomes, future studies may also assess possible sources of intra-organizational differences that influence organizational outcomes as part of their analyses. In doing so, MLM analysis would further add to the understanding of the role of values in explaining workplace satisfaction.

Lastly, my study would have estimated the proportion of variability in the criterion variable attributed to between-organizational differences with a greater sample size. A R^2 value with a negative coefficient was derived from the MLM analyses in each instance of

calculating the amount of variance the predictors explained in the model. Heck et al. (2010) discussed one of the contributors to this unexpected result was due to the estimation improvement of the error terms and coefficients, due to the added indicators to the intercept-only model in each instance. Heck et al. noted that this result could possibly be minimised by an improvement in the sample size used in the study. Therefore, in future studies there should be attempts to involve larger samples when conducting MLM analyses involving the influence of values on organizational outcomes. Doing so may reduce the likelihood of having inaccurate estimations of the proportion of between-groups variance accounted for in the model.

9.3.6. Values Conclusion. Individual and perceived organizational preferences for values were significantly linked to workplace satisfaction. When attempting to validate both models for individual and perceived organizational data, diverging model solutions were produced. This may reflect the proximity to the individual's self concept when assessing individual and organizational preferences for values. The proximity change between the two bases of judgement arguably prompted response biases such as the self-serving bias (MacDonald & Standing, 2002), and the better-than-average effect (Alicke & Govorun, 2005). The influence of values preferences on workplace satisfaction varied between the individual and perceived organizational preferences. This provides insight as to how values may have variable influences depending on the perspective or entity to which they are applied. In summary, values were a significant contributor to the explanation of workplace satisfaction.

CHAPTER 10: VALUES AND CULTURE CONGRUENCE

This chapter presents analyses addressing my study's third objective. The third objective is to examine whether linkages between thematically-associated values and culture pairs will emerge via factor analysis and whether values-culture congruence will be influential in predicting workplace satisfaction. In Section 10.1. the results of the exploratory factor analyses that tests for thematically linked values and culture pairings are presented. Section 10.2. the results of the difference scores and polynomial regression testing to demonstrate the influence of congruence on workplace satisfaction are shown. Finally, the discussion of the findings from Sections 10.1. and 10.2. is presented in Section 10.3.

10.1. Values and Culture EFA Analyses

10.1.1. Assumption Testing and Data Correction. Normality was addressed prior to the analysis by the previously presented algebraic transformations of non-normal predictors (see Sections 8.3.1. and 9.2.1.). Multicollinearity was assessed via a correlation matrix comparing each indicator with all other indicators. No Pearson's r coefficients were in excess of .80, indicating that multicollinearity was not problematic. Additionally, the factorability of R was not considered problematic due to at least several instances of Pearson's correlation coefficient in excess of .30. The ratio of cases to predictors in the dataset used in the following exploratory factor analyses (EFAs) was approximately 40:1, which was considered to have adequate power for detecting viable EFA models (Stevens, 1986; Tabachnick & Fidell). As the data appeared to meet the criteria for multivariate and univariate outliers and normality, in addition to adequate sample sizes, it was considered viable for the testing of the EFAs.

10.1.2. Individual Values and Culture Linkages. The first EFA used IP data to test whether there are linkages between values and culture factors. The eight predictors (four values factors, four culture factors) were loaded into a Maximum Likelihood EFA conducted by the SPSS FACTOR process. An orthogonal varimax rotation was applied to the factor solution to also aid in interpretation, as the extracted factors were not sufficiently intercorrelated ($r < .30$). Loadings below .30 were suppressed in any output to aid in interpretation of the factor structure. Prior to interpretation of the factor structure, initial checks for the suitability of the data for EFA were produced. Anti-image correlation matrices were assessed, and none of the variables had correlation coefficients $< .50$, therefore this data assumption was considered adequate for the continuation of EFA. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy statistic was .606, which was considered borderline adequate (Tabachnick & Fidell). Barlett's test of sphericity was

significant, $\chi^2 (N = 328, 28) = 824.17, p = .001$, therefore initial checks for the suitability of the EFA procedure appeared to be adequate. A correlation matrix for the entered variables is presented in Table 38.

Table 38.

Pearson's r Coefficients for Individual Preferences for Values and Culture Factors ($N = 328$)

	Hum ^a	Visn ^b	AdCon ^c	Bottm ^d	Clan ^e	Adhoc ^f	Market ^g	Hierarch ^h
Hum ^a		.522***	.577***	.230***	.283***	.221***	.026	.193***
Visn ^b			.327***	.473***	.190***	.404***	.175**	.070
AdCon ^c				.392***	.187***	.185***	.235***	.380***
Bottm ^d					-.016	.230***	.187***	.128*
Clan ^e						.572***	.212***	.370***
Adhoc ^f							.466***	.188***
Market ^g								.395***
Hierarch ^h								

Note. * $p < .05$. ** $p < .01$, *** $p < .001$. ^a Humanitarian Values. ^b Vision Values. ^c Adherence to Convention Values. ^d Bottom-line Oriented Values. ^e Clan Culture. ^f Adhocracy Culture. ^g Market Culture. ^h Hierarchy Culture.

Initial extraction of the factors on the basis of Eigenvalues > 1 produced a four factor model. However, due to the near marginal third and fourth factors (Eigenvalues = 1.04 and 1.01 respectively), and several indicator cross-loadings across factors, a two factor model appeared to be more suitable. In the forced two factor solution, the Vision values indicator was cross-loading on both factors, and was removed from the analysis before reanalysing the EFA. The revised model had a reduction in the statistics related to sampling adequacy, Bartlett's $\chi^2 (N = 328, 21) = 617.24, p = .001$, KMO = .568. The lowness of these adequacy indices was noted, and interpretation of the extracted model was undertaken cautiously. The removal of the Vision values indicator from the model allowed adequate fitting of a forced two factor model, $\chi^2 (N = 328, 8) = 127.32, p = .001$. This model represented 56.53% of the variance in the model indicators. Factor score covariance matrix indices were sufficient ($>.80$) for both extracted factors. The rotated factor matrix for the two factor model is produced in Table 39.

Table 39.

Varimax Rotated Factor Structure for Two-Factor Model of Individual Culture and Values Preferences ($N = 328$)

	Factor	
	1 (Values)	2 (Culture)
Adherence to Convention Values	.997	
Humanitarian Values	.568	
Bottom-Line Oriented Values	.381	
Hierarchy Culture	.371	
Adhocracy Culture		.992
Clan Culture		.558
Market Culture		.444

In interpreting the factor structure, it was evident that the three culture indicators clustered together. The first extracted factor is composed of the remaining values indicators, and the Hierarchy culture indicator. The Hierarchy culture indicator does not appear to load very highly on the first factor however, marginally loading higher than the .30 cut-off employed in interpreting the EFA. In general, these results were contradictory to what was expected in terms of values/culture synergy, wherein it was expected that thematically similar values and culture indicators would cluster (e.g., Clan culture and Humanitarian values). When employing IP data, there does not appear to be any evidence for clustering between values and culture indicators of thematically related content. Instead, it appears that values and culture factors generally load on opposing factors, indicating no common underlying factor between the thematically linked indicators.

Therefore hypothesis 16a was not supported by the data. The model adequacy findings were problematic. Hypothesis 16b was not supported. The factor structure did not conform precisely to either of the expected interpretations, although it broadly reflected a values/culture split of the factors. In summary support for the hypotheses pertinent to IP data was not evident.

10.1.3. Organizational Values and Culture Linkages. In a similar arrangement to the IP EFA, OP data for values and culture factors were loaded into an EFA conducted using the SPSS FACTOR procedure. Initial checks for sampling adequacy appeared to be acceptable, Bartlett's χ^2 ($N = 328, 28$) = 1405.98, $p = .001$, KMO = .769. However there was a possible problem with sampling adequacy with regards to the Market culture factor, based on the anti-image correlation matrix coefficient of .427. The EFA was cautiously interpreted despite this possible problem. Based on the criteria of Eigenvalues > 1, a two factor model appeared to be the most appropriate. Four of the eight factors cross-loaded across the two

factor solution. The communality of the Market culture factor was marginal (.265), hence it was taken out of the model. Despite having an adequate pattern of correlations between the indicators as presented in the correlation matrix in Table 40, no differentiation between factors could be achieved. The following reanalysis of the model conformed to a single-factor solution based on the Kaiser criterion, which is presented in Table 41. The factor score covariance matrix coefficient was sufficient, .913.

Table 40.

Pearson's *r* Coefficients for Perceived Organizational Preferences for Values and Culture Factors (*N* = 328)

	Hum ^a	Visn ^b	AdCon ^c	Bottm ^d	Clan ^e	Adhoc ^f	Market ^g	Hierarch ^h
Hum ^a		.736***	.672***	.672***	.673***	.477***	.071	.379***
Visn ^b			.551***	.561***	.577***	.604***	.174**	.188***
AdCon ^c				.596***	.460***	.353***	.132**	.344***
Bottm ^d					.483***	.391***	.194***	.392***
Clan ^e						.652***	.124*	.494***
Adhoc ^f							.484***	.216***
Market ^g								.219***
Hierarch ^h								

Note. **p* < .05. ***p* < .01, ****p* < .001. ^a Humanitarian Values. ^b Vision Values. ^c Adherence to Convention Values. ^d Bottom-line Oriented Values. ^e Clan Culture. ^f Adhocracy Culture. ^g Market Culture. ^h Hierarchy Culture.

Table 41.

Factor Structure for the Extracted One Factor Model of Organizational Culture and Values Preferences (*N* = 328)

	Factor Loading
Humanitarian Values	.905
Vision Values	.798
Clan Culture	.749
Bottom-Line Oriented Values	.730
Adherence to Convention Values	.716
Adhocracy Culture	.608
Hierarchy Culture	.433

Interpretation of this model is therefore problematic. The chi-square fit statistics are not indicative of a good fitting model, as the significant chi-square value indicates. Furthermore, even the normed chi-square ratio of 14.18 for the current model is above the recommended value of being less than 3. Forcing a four factor solution during extraction created an uninterpretable model with multiple cross-loadings across factors. Again, these findings refuted the initial hypothesis that there would be evidence of synergy between like values/cultures (e.g., Adhocracy culture and Vision values). Instead, it would appear that

most of the perceived organizational preferences factors for values and culture loaded on a single underlying factor, as opposed to splitting into factors representing underlying likenesses between the factors.

Hypotheses 17a and 17b, mirroring the IP data analysis, were not supported by the OP data EFA results. Hypothesis 17a, which predicted that the extracted model would demonstrate adequate fit criteria, was not supported by the data. The model's adequacy was questionable due to its greater than desirable chi-square fit indices. Hypothesis 17b was not supported, as the extracted model was not interpretable in the expected four or two factor solutions expressed in the rationale. In summary, neither IP nor OP EFA data appeared to provide sufficient evidence for underlying synergistic relationships between values and culture. This appeared to indicate that they are independent or unique constructs, which is surprising given the importance values bore in the formation of the construct of culture (Cameron & Quinn, 2001). Therefore the examination of the linkages between values and culture factors investigated as part of the third study objective did not provide results that confirmed the anticipated model configurations.

10.2. Values Congruence Testing

This section of the chapter will provide details on both the difference scores and polynomial regression results conducted as part of the third objective.

10.2.1. Prior Assumptions and Variable Creation. Firstly, creation of the difference scores between values and culture factors was undertaken in a similar manner to that described by O'Reilly et al. (1991). The standardised residuals of each variable to be used in the creation of the difference scores (the individual preferences for values, and the perceived organizational preferences for cultures) were calculated. As the individual level scores were to be compared with the perceived organizational preferences for culture as a group mean (i.e., per workplace), the group mean for the perceived organizational preference for each culture factor was calculated prior to the standardised residuals across workplaces. Once both variables were converted to standardised residuals, the group mean perceived organizational preference score was subtracted from the individual level score.

The created difference score was not analogous to the difference score described by O'Reilly et al. (1991) in its current form. As it stood, large scores from the subtraction calculated previously indicated greater *incongruence*, not congruence. Difference scores were therefore inverted to reverse this effect, so that larger scores were indicative of greater congruence. As a result, this difference score value for each participant was interpretable via bivariate correlation with the outcome variable, GWS. A significant

correlation between the difference scores and the outcome variable was considered evidence for linear congruence.

The difference scores, after algebraic inversion and the discarding of directional coefficients, have a non-normal shape (a 'J-shaped' curve). Due to the non-normal data, Pearson's r was unsuitable for evaluating correlation, and instead Kendall's τ - b was used. The assumptions of data independence and at least ordinal scale of measurement for each variable were met. Therefore assessment of the nature of congruence as a correlation between the difference scores and the outcome measure could be conducted.

Assumptions regarding the polynomial regressions conducted in the analyses were met. To avoid problems associated with multicollinearity, all indicators were centred prior to inclusion in the regression model. Bivariate correlations conducted between the entered variables in each of the upcoming analyses had $r < .50$, thereby indicating that multicollinearity between the predictors was not a significant issue. To determine whether there were any multivariate outliers, examination of Mahalanobis' distances, Cooks' distances, and leverage values for each case was conducted. Participant cases that bore Mahalanobis distances greater than $\chi^2 = 20.515$ (due to five df : two linear predictors, two non-linear predictors, and one interaction term) were excluded from the upcoming analyses. In each instance of discovering significant Mahalanobis distances, the proportion of affected cases ranged from approximately 3.1 – 4.3% of the total cases, hence it was considered acceptable to exclude these cases instead of adjusting them algebraically (Tabachnick & Fidell, 2007). No participants were excluded from the upcoming analyses due to Cook's distances, as all values were not in excess of 1.0 (Tabachnick & Fidell). The ratio of cases to predictors was approximately 63:1 in each of the upcoming regression analyses. This ratio was considered acceptable for ensuring sufficient power to detect moderate to large effect sizes (Stevens, 1992). In summary, the assumptions pertaining to the regression analysis were considered acceptable.

10.2.2. Correlation Testing of Difference Scores. As described previously, difference scores between the individual values preferences, and the perceived organizational preferences for cultures, were tested for significant correlations with the GWS outcome variable. Table 42 presented the correlation coefficients and their p values for the analyses.

Table 42.

Difference Scores Between Individual Values Preferences and Perceive Organizational Culture Preferences, and their Relationship to Generalised Workplace Outcomes ($N = 327$).

	<i>Tau-β</i>	<i>p</i>
Values/Culture Difference Score		
Humanitarian / Clan	.018	.624
Vision /Adhocracy	.050	.178
Adherence to Convention / Hierarchy	.016	.668
Bottom-Line Oriented / Market	.077	.039*

Note. * $p < .05$.

As indicated in Table 44, there was only evidence for congruence between values and culture having a significant effect on GWS for the difference scores between Bottom-Line Oriented values, and the Market culture. The direction of the coefficient indicated that, as the similarity between the individual's preference for Bottom-Line Oriented values and the perceived organizational preference for the Market culture increased, GWS increased. This result provided marginal support for Hypothesis 18, which predicted that difference scores would be significant indicators of workplace outcomes. Instead, only one of the difference scores was a statistically significant indicator, thereby partially supporting this hypothesis. This result provided a basis of comparison in the ensuing HMRA analyses of congruence using Edwards' (1993) methodology.

10.2.3. Multifaceted Congruence Testing of Humanitarian Values and Clan

Culture. Prior to testing congruence using both linear and non-linear terms, examination for multivariate and univariate outliers was conducted. Ten cases were removed from the analysis due to being identified as multivariate or univariate outliers, as per the criteria discussed prior (see Section 10.2.1.), leaving 317 cases for the following analysis. To test the regression equation of congruence between Humanitarian Values and Clan Culture, the linear, quadratic, and interactive terms of the predictors were loaded into a model predicting GWS in a two-block process. The model's first block, involving linear predictors of values and culture, was significant in predicting GWS, $F(2, 314) = 134.10$, $p = .001$. The amount of variance explained by the model (R^2) was approximately 46.1%, which represented a very large effect size, $f^2 = .855$. The second block, which introduced the non-linear components to assess non-linear congruence possibilities, did not significantly improve the models' predictive value for GWS, $\Delta F(3, 311) = 2.12$, $p = .098$, $\Delta R^2 = .011$. The overall model, with all predictors entered, significantly predicted GWS, $F(5, 311) = 55.48$, $p = .001$, $R^2 = .471$, and was indicative of a large effect size, $f^2 = .890$. The standardised and

unstandardised coefficients of the predictors and their significance are presented in Table 43, and are graphically represented via surface response plots in Figure 14.

Table 43.

Unstandardised and Standardised Coefficients for Humanitarian Values and Clan Culture in Predicting GWS ($N = 317$).

	<i>B</i>	<i>SE</i>	β	sr^2	<i>p</i>
First Block					
Humanitarian Values	2.24	.826	.11	.013	.007**
Clan Culture	7.45	.484	.65	.406	.001***
Second Block					
Humanitarian Values	2.45	.828	.13	.015	.003**
Clan Culture	7.32	.490	.64	.379	.000***
Humanitarian Values ²	-.46	5.752	-.00	.010	.936
Clan Culture ²	-3.94	1.607	-.11	.000	.015*
Humanitarian Values x Clan Culture	4.53	3.544	.06	.003	.202

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

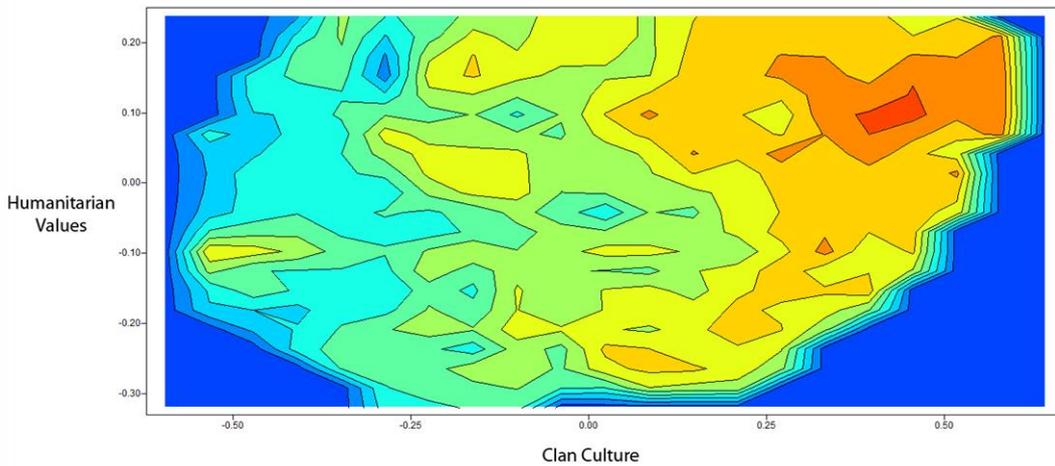
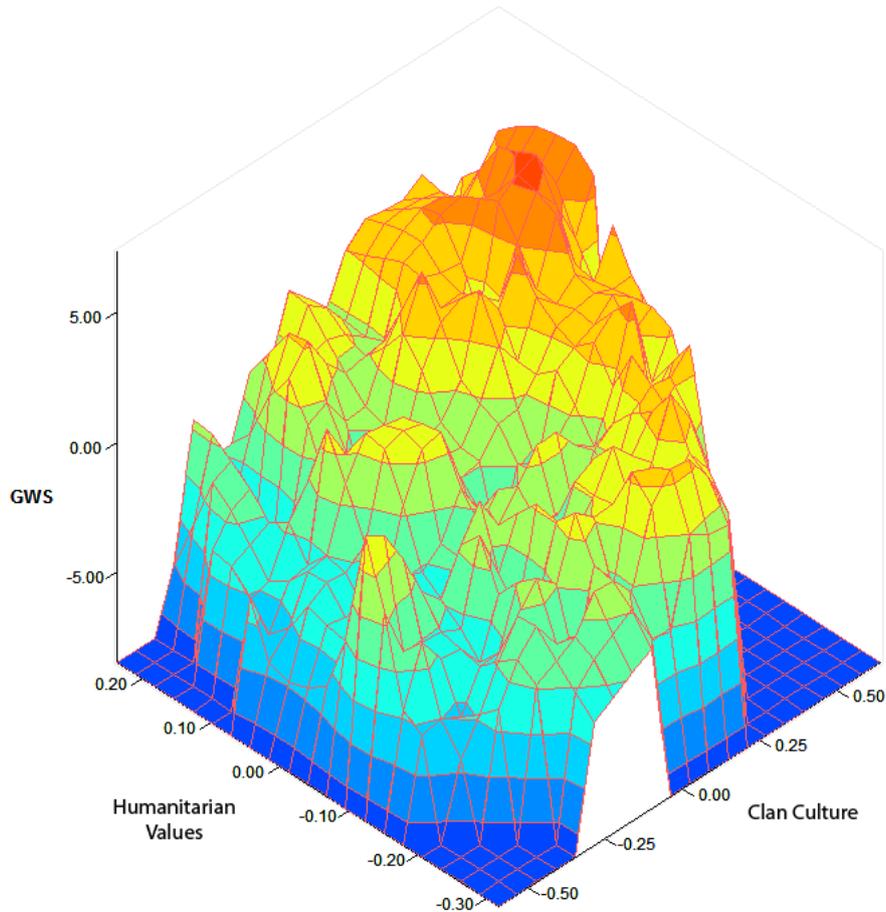


Figure 14. Surface response plots indicating the relationship between individual preferences for Humanitarian values and perceived organizational preference for the Clan culture ($N = 317$).

The congruence analysis indicated significant linear components in the model even after accounting for the non-linear components. The absence of same linear coefficient directions do not support the constraints of traditional linear congruence analysis as traditionally derived by difference scores (Edwards, 1994). Examination of the surface

response plot for this values/culture pairing seemed to replicate the general linear trend for both predictors influencing GWS. A generally flat surface ascending along the diagonal for both terms bearing positive preferences for Humanitarian values and Clan culture was evident in the image. However, the gentle sloping edges visible on the edges of the surface response plot were indicative of the non-linear influence of the squared Clan culture coefficient. Therefore, if traditional linear algebraic difference scores methodology was employed, it was unlikely that these non-linear influences on the relationship would be captured. As a result, the unconstrained model presented evidence for a mostly positive linear trend between Humanitarian values and Clan culture preferences, albeit this was tempered by a non-linear influence on Clan culture as evidenced in Table 43. These results supported hypothesis 19a as a result.

10.2.4. Multifaceted Congruence Testing of Vision Values and Adhocracy Culture.

In a similar method as that conducted to test Humanitarian/Clan congruence, the Vision values and Adhocracy culture predictors were modelled to predict GWS. Fourteen cases were identified as either univariate and/or multivariate outliers prior to the analysis and were removed, leaving 313 cases for the analysis. In the first block, the linear regression model was significant, $F(2, 310) = 50.37, p = .001, R^2 = .245, f^2 = .325$, and indicative of a moderately-large effect size. Only the adhocracy culture predictor successfully predicted GWS at this level. The second step of the analysis did not introduce any significant improvements in explained variance, with a non-significant change in model fit, $\Delta F(3, 307) = 1.54, p = .205, \Delta R^2 = .011$. The overall model significantly predicted GWS, $F(5, 307) = 21.18, p = .001, R^2 = .256, f^2 = .344$. The predictor coefficients and statistical significance values are presented in Table 44, while the surface response plots of the data is presented in Figure 15.

Table 44.Unstandardised and Standardised Coefficients for Vision Values and Adhocracy Culture in Predicting GWS ($N = 313$).

	<i>B</i>	<i>SE</i>	β	sr^2	<i>p</i>
First Step					
Vision Values	.16	1.011	.01	.000	.874
Adhocracy Culture	2.03	.204	.49	.240	.001 ***
Second Step					
Vision Values	.58	1.033	.03	.001	.576
Adhocracy Culture	1.97	.210	.48	.214	.001 ***
Vision Values ²	-5.23	5.951	-.05	.002	.380
Adhocracy Culture ²	-.43	.228	-.10	.009	.059
Vision Values x Adhocracy Culture	1.61	1.536	.05	.003	.296

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

When examining both Vision values and Adhocracy culture, there appeared to be no evidence for congruence as per Edwards' (1994) discussion, due to the large influence of Adhocracy culture and marginal influence of Vision values on workplace satisfaction. Examination of the surface response plot appeared to indicate no clear patterns of linear/non-linear congruence. Therefore the effect of Vision values and Adhocracy culture preferences did not appear to have a congruence element that predicted GWS results significantly. These results did not support hypothesis 19b as a result.

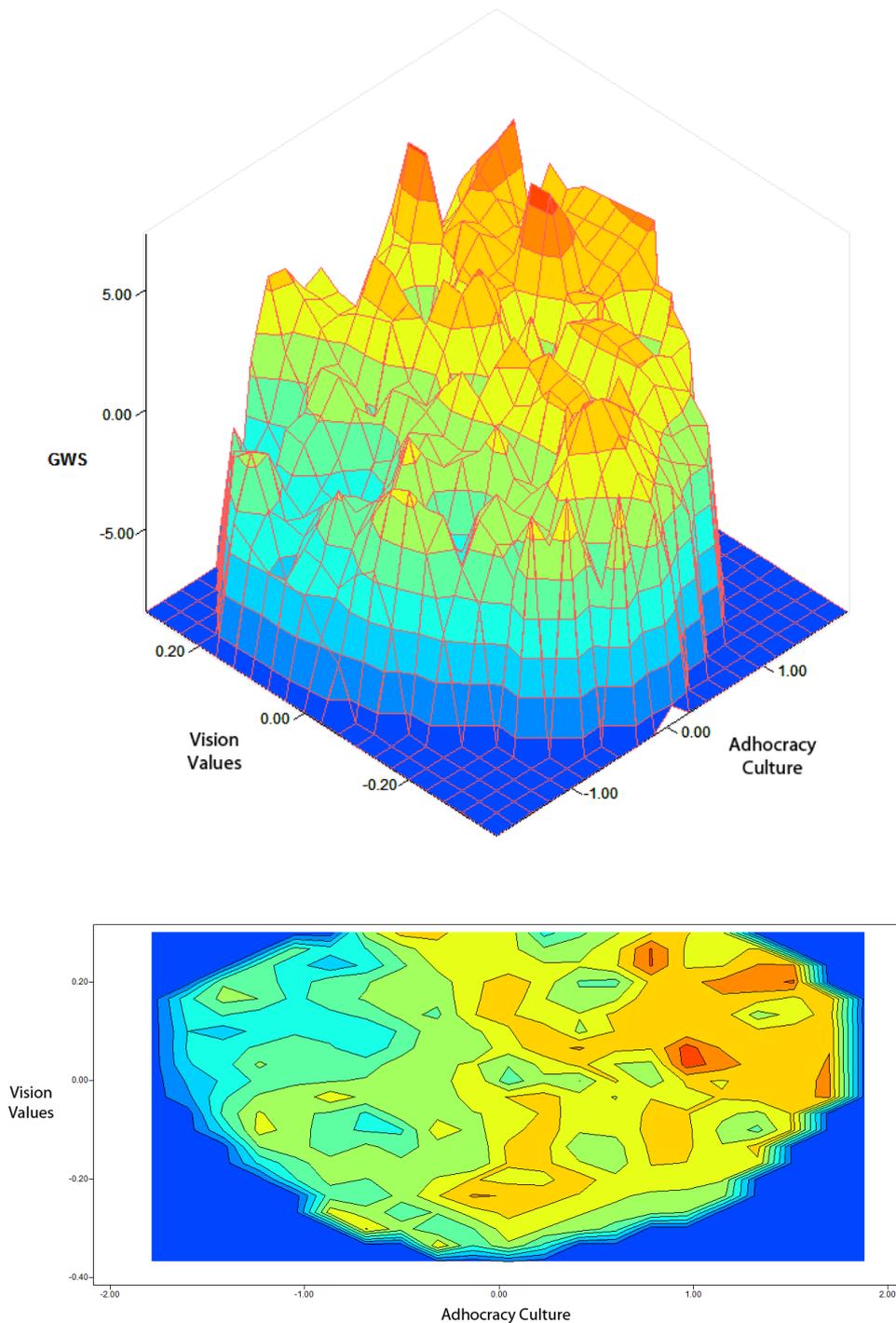


Figure 15. Surface response plots indicating the relationship between individual preferences for Vision values and perceived organizational preference for the Adhocracy culture ($N = 313$).

10.2.5. Multifaceted Congruence Testing of Adherence to Convention Values and Hierarchy Culture. The congruence testing between Adherence to Convention values and Hierarchy culture was conducted using the congruence analyses methodology outlined previously. Thirteen cases were removed due to being identified as univariate/multivariate outliers via standardised residuals or significant Mahalanobis / Cook's distances, leaving 314

cases in the forthcoming analysis. The linear model was a significant predictor of GWS, $F(2, 311) = 22.10$, $p = .001$, $R^2 = .124$, $f^2 = .142$. The non-linear coefficients model was also a significant indicator of GWS, $\Delta F(3, 308) = 5.04$, $p = .002$, $\Delta R^2 = .041$. The overall model was again significant in predicting GWS, $F(5, 308) = 12.21$, $p = .001$, $R^2 = .165$, $f^2 = .198$.

Coefficients and statistical significance figures for the predictors are presented in Table 45, while graphical representation of the data via surface response plots are presented in Figure 16.

Table 45.

Unstandardised and Standardised Coefficients for Adherence to Convention Values and Hierarchy Culture in Predicting GWS ($N = 314$).

	<i>B</i>	<i>SE</i>	β	sr^2	<i>p</i>
First Step					
Adherence to Convention Values	4.12	.990	.23	.049	.001 ^{***}
Hierarchy Culture	3.45	.883	.22	.043	.001 ^{***}
Second Step					
Adherence to Convention Values	4.03	.988	.22	.045	.001 ^{***}
Hierarchy Culture	2.90	.878	.18	.030	.001 ^{***}
Adherence to Convention Values ²	2.06	4.565	.03	.001	.652
Hierarchy Culture ²	-11.34	3.189	-.20	.034	.001 ^{***}
Adherence to Convention Values x Hierarchy Culture	12.41	5.502	.13	.014	.025 [*]

Note. ^{*} $p < .05$. ^{**} $p < .01$. ^{***} $p < .001$.

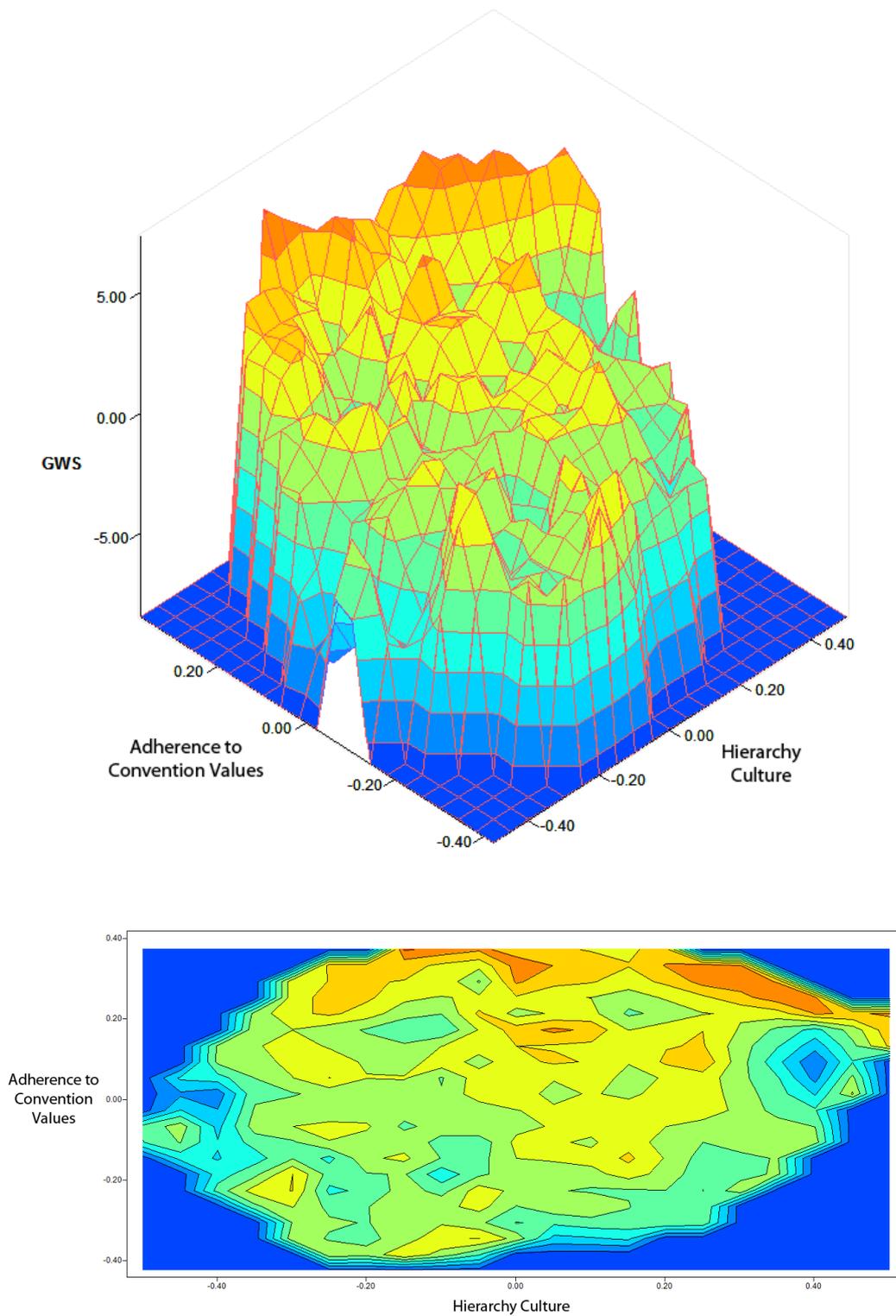


Figure 16. Surface response plots indicating the relationship between individual preferences for Adherence to Convention values and perceived organizational preference for the Hierarchy culture ($N = 314$).

Unlike previous models, the interactive term between the value and culture scores was significant. Unfortunately there was no evidence for interactive congruence derived from

the traditional constrained congruence coefficients. While the coefficient directions supported Edwards' criteria for a constrained asymptotic interaction congruence effect (see Table 45), the lack of significant non-linear values predictors was interpreted as voiding this interpretation. Examination of the surface response plot for this pairing contrasted with the generally flatter ascending surface described previously with the Humanitarian/Clan plot. Additionally the surface response plot had sharper sloping edges in comparison to Figure 14 presented previously, which presumably indicated a greater influence of the non-linear predictor. The unconstrained congruence model appeared to indicate varied linear and non-linear influences from the values and culture predictors in influencing workplace satisfaction. These results were supportive of hypothesis 19c.

10.2.6. Multifaceted Congruence Testing of Bottom-Line Oriented Values and Market Culture. As with previous analyses, tests for univariate/multivariate outliers were conducted. Fourteen cases were removed in this manner, leaving 313 participants included in the forthcoming polynomial regression analysis. With regards to the first block of predictors, the linear model was non-significant in this instance, $F(2, 310) = 1.368, p = .256, R^2 = .009$. The full model, however, was significant in predicting GWS, $F(5, 307) = 2.469, p = .033, R^2 = .039, f^2 = .041$ (see Table 46). The non-linear variant of Hierarchy culture was the only significant predictor of the full model. Therefore evidence for congruence between values and culture was not present at the Bottom-Line Oriented values / Market culture level, as detailed in Table 46. Figure 17 represented the surface response plot of the congruence relationship between Bottom-Line Oriented values and Market culture. Examination of the surface response plot indicated no identifiable pattern of linear or non-linear congruence, due to a discordant shape that reinforced the regression coefficient statistics. These results were not supportive of hypothesis 19d.

Table 46.

Unstandardised and Standardised Coefficients for Bottom-Line Oriented Values and Market Culture in Predicting GWS ($N = 313$).

	<i>B</i>	<i>SE</i>	β	sr^2	<i>p</i>
First Step					
Bottom-Line Oriented Values	1.40	.863	.09	.008	.106
Market Culture	-.46	.876	-.03	.001	.599
Second Step					
Bottom-Line Oriented Values	1.40	.860	.09	.008	.105
Market Culture	-.58	.868	-.04	.001	.508
Bottom-Line Oriented Values ²	.05	3.270	.00	.000	.987
Market Culture ²	-8.53	3.290	-.15	.021	.010*
Bottom-Line Oriented Values x Market Culture	6.79	4.568	.09	.007	.138

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

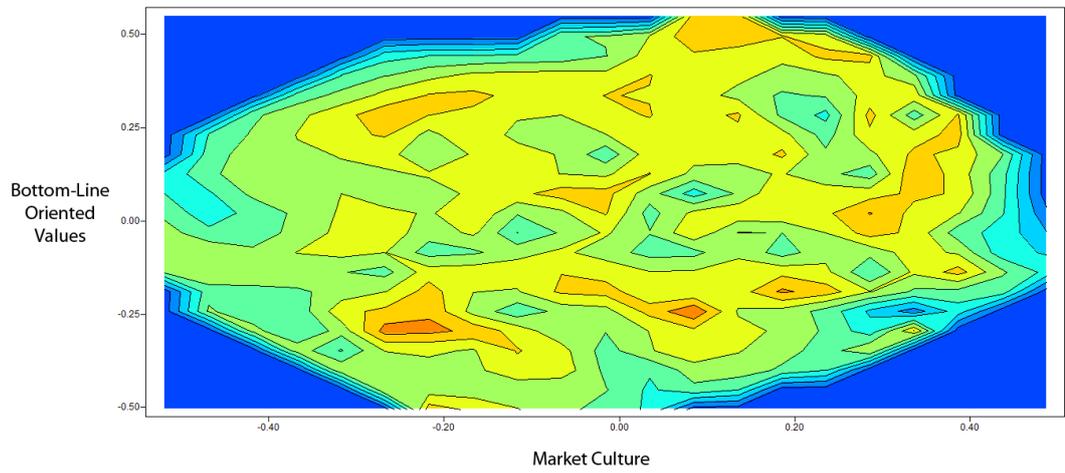
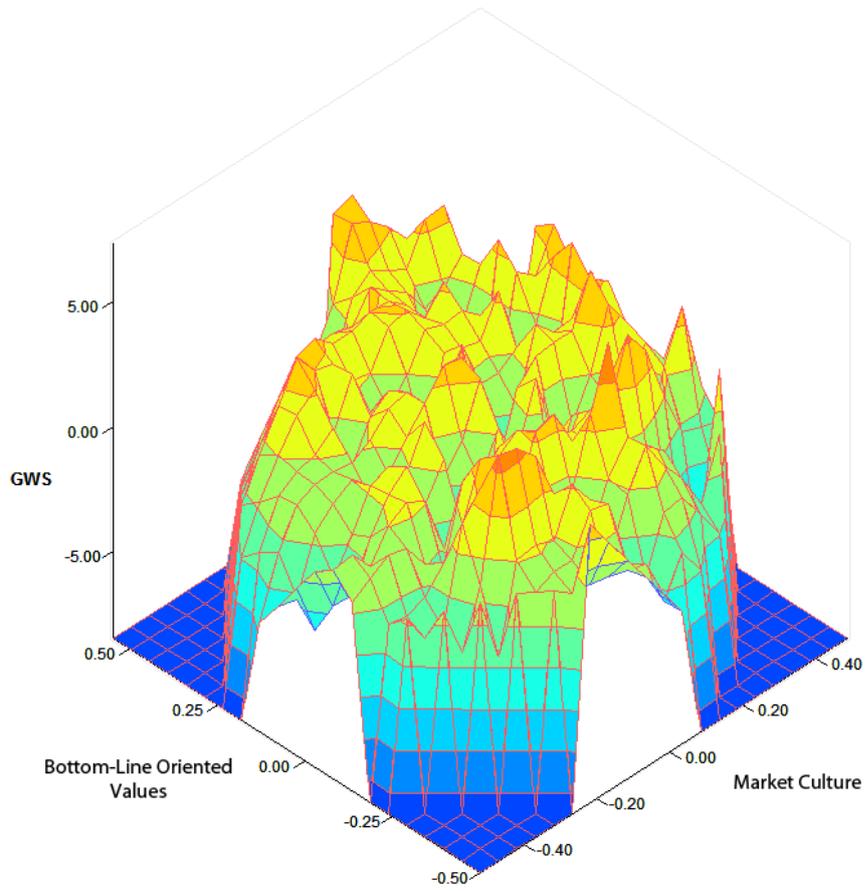


Figure 17. Surface response plots indicating the relationship between individual preferences for Bottom-Line Oriented values and perceived organizational preference for the Market culture ($N = 313$).

10.3. Congruence-Based Discussion

10.3.1. Examination of Hypotheses. Prior to the discussion of the hypotheses and their support, Table 47 presents the relevant tested hypotheses for Objective Three.

Table 47.

Summary of the Testable Hypotheses Relevant to Objective Three.

Hypothesis Number	Description	Supported
16a	Preferences from the individual's perspective for the values and culture factors will demonstrate adequate model fit criteria.	No
16b	A theoretically justifiable model relative to H16a can be extracted.	No
17a	Preferences from the perceived organizational preferences data for the values and culture factors will demonstrate adequate model fit criteria.	No
17b	The model extracted relative to H17a will be interpretable in a manner theoretically justifiable.	No
18	Difference scores will be significant indicators of workplace outcomes.	Partial
19a	Polynomial regression for Humanitarian values / Clan culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.	Yes
19b	Polynomial regression for Vision values / Adhocracy culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.	No
19c	Polynomial regression for Adherence to Convention values / Hierarchy culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.	Yes
19d	Polynomial regression for Bottom-Line Oriented values / Market culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.	No
20	Any significant difference scores congruence predictor should explain less of the variability in GWS compared to the parallel polynomial regression tested equivalent.	Yes

Hypotheses 16a through 17b focussed on the results of the exploratory factor analysis between values and culture preferences. These hypotheses predicted that the exploratory factor analysis solutions would demonstrate adequate model fit, and would be interpretable in a theoretically sound manner. These hypotheses were not supported for either the IP data or the OP data. Neither the anticipated binary solution (four pairs of thematically linked values and cultures, i.e. Humanitarian and Clan), or the two factor solution that would separate values and culture into distinct factors, were presented consistently in the results. Furthermore the poor adequacy criteria fulfilment for the individual preferences weakened interpretation of the two factor solution that emerged. In

summary, the exploratory factor analyses did not support the hypotheses that were suggested in the rationale.

Hypothesis 18 had marginal support, as the only significant difference scores predictor of GWS was the very weak correlation between the difference scores of Bottom-Line Oriented values / Market culture and the criterion variable. As an attempt to represent difference scores without the Q-Sort profile similarity calculation was to provide a basis for comparison with the polynomial regression results, the lack of strong findings from these analyses did not afford this comparison. Therefore difference scores did not coincide with the significant linear predictors of congruence derived from polynomial regression as originally anticipated, thereby partially supporting the hypothesis at the most tenuous level.

The congruence testing provided mixed support for the influence of value/culture synergy on workplace satisfaction. Hypothesis 19 predicted that evidence for congruence via Edwards' (1994) polynomial regression techniques would emerge for each of the four pairings of thematically related values/culture pairs. Hypothesis 19a, which predicted evidence for congruence for the Humanitarian values / Clan culture pairing, was supported by polynomial regression coefficients and visual inspection of the related surface response plot. Hypothesis 19b, examining evidence for congruence between the Adhocracy culture and Vision values preferences, was not supported by the polynomial regression testing and the complementary surface response plot examination. Instead, the influence of Adhocracy culture alone was a significant predictor of GWS. Hypothesis 19c, regarding the Adherence to Convention values and Hierarchy culture, was supported by the data. While there was no clear linear/non-linear congruence effect visible in the results or the plot, a combination of linear/non-linear influences were influential in predicting GWS. Hypothesis 19d received no support from the polynomial regression analysis or surface response plot when examining the possibility of a congruence influence between Bottom-Line Oriented values and Market culture.

10.3.2. Comparison with Previous Findings and Implications

10.3.2.1. Exploratory Factor Analysis. The unexpected results of the exploratory factor analyses of values and culture did not correspond to previous findings, specifically those of Schneider (1987). Hypotheses 19a through 19d predicted that there would be pairings (such as the Humanitarian values factor and the Clan culture factor) consistent with Schneider's ASA hypothesis, as employees were theorised to have homogenous values/culture preferences. Past research has demonstrated that individuals were generally found to have greater similarities with their organization and occupation of

choice in comparison to outsiders (Boone, et al., 2004; Johnson & Jackson, 2009; Ostroff & Rothausen, 1997; Schneider, et al., 1995; Schneider, et al., 1998). This was not limited to straightforward values congruency between the individual and their organization or occupation, as Ployhart et al. (2006) have demonstrated that personality congruence is also a present factor. Therefore the current results were not consistent with the presumed 'super-imposed' relationship between Finegan's (2000) four factor values model, and Cameron and Quinn's (1999, 2006) four factor culture model. The thematic consistency and arguable synergy between Finegan's values factor and Cameron and Quinn's four culture factors formed the basis of the predicted binary pattern, however this was not evident in the EFA results for either data set.

When examining the EFA results for the individual and perceived organizational level values data, the two extracted models appeared to exemplify a layered and univariate model of culture, respectively. The extracted model required two adjustments to be perfectly representative of the layered model: Vision values would require reintroduction on the values factor, and Hierarchy culture would require remapping to the culture factor. While this was not the case in the conducted analysis, the remaining item-factor structure was close to representing a layered model. In doing so, the resultant factor structure would provide evidence not for the ASA-based prediction of binary value/culture factors, but instead of the layered approach to culture proposed by Schein (1990, 1993, 1996). Individual responses which indicated a divide between values and the processes in Cameron and Quinn's (1999, 2006) CVF could be interpreted as being representative of the 'onion-layer' model of culture by Schein. As the two extracted factors appeared to emulate a values / practices split, the individual-level data could be indicative of the middle and outer layers of Schein's onion-layer model, respectively. This was an interesting development on its own accord, as it could be indicative of the way in which participants were cognisant of the differences between what values and the behaviours/practices indicative of culture represent. However, taking into consideration the two indicators that loaded contrary to the layered model, the ability of participants to differentiate between the layers of culture would require further examination in future research.

The extracted unifactor model for the perceived organizational preferences data may have represented the perception of the interrelated aspects of the organization's functioning. A unifactor model could be indicative of the conjoined nature of values and observable manifestations of culture as per Hofstede's (1998) culture model; both are pieces of a larger cultural gestalt. Again, however, it must be stated that the result is not representative of the hypothesised binary associations between values and culture factors

based on Schneider's (1987) ASA model. Due to the theoretical link between individual values being a basis of comparison against perceived organizational culture preferences as part of this model, this result was surprising. As such the perceived organizational preferences data for values and culture, and the extracted EFA model that resulted from the use of this data, produced results that were contrary to past literature.

When considering the reasons behind the lack of consistency between theory and the current results, there appeared to be a difference in conceptual clarity (as evidenced by the divergence in CFA analyses) between the values and culture factors used in the study. Differences in meaning between the two models may have been influential in the model divergence. Therefore, due to the model variations between IP and OP data, the EFA outcomes were presumably less likely to conform to the binary pattern initially predicted as a result.

10.3.2.2. Congruence Testing. The results of the congruence testing between the theoretically linked values and culture indicators was interesting in light of past congruence research. Varying evidence for congruence was found, confirming previous research as detailed in the following section.

Due to the limitations in the difference scores method of analysis applied in Q-Sort based measures of congruence such as that of O'Reilly et al. (1991) as elaborated on by Edwards (1993, 1994), an examination of difference scores correlations was assessed first. Edwards inferred that the difference scores method was unable to account for more variability than the variables considered in polynomial regression. Curiously, the findings for all difference score correlations between the aforementioned pairings of values and culture factors were non-significant, save for the Bottom-Line values / Market culture pairing. This result was especially curious given that the related polynomial regression analysis for Bottom-Line/Market congruence revealed little evidence of its influence on organizational outcomes. However, this result is arguably weak ($\tau\text{-}b = .08, p = .039$) and it was therefore difficult to ascertain whether it would be replicated outside of the current analysis. In summary, while the initial three difference score correlations confirmed the argument of Edwards regarding their lessened ability to demonstrate the influence of congruence, the final correlation appeared to contradict this expectation. As it was possible that this outcome was based on capitalisation of chance factors, and seems unusual given the surrounding results, this finding is most likely not of theoretical importance.

10.3.2.3. Clan/Humanitarian Congruence. The Clan culture / Humanitarian values congruence testing via polynomial regression techniques (Edwards, 1994), supported findings by Verquer et al. (2003) and Kristof-Brown et al. (2005) regarding the influence of

congruence on organizational outcomes. The Humanitarian values / Clan culture pairing was the combination most evident of congruence influencing organizational outcomes, with a shape of the surface response model mainly representative of its linear predictive influences (see Figure 18). Note that the model appeared to taper downwards on the outer edges of the slope, in an inversion of the 'U-Shape' presented by Edwards and Cooper's (1990) Figure E as presented in Figure 18.

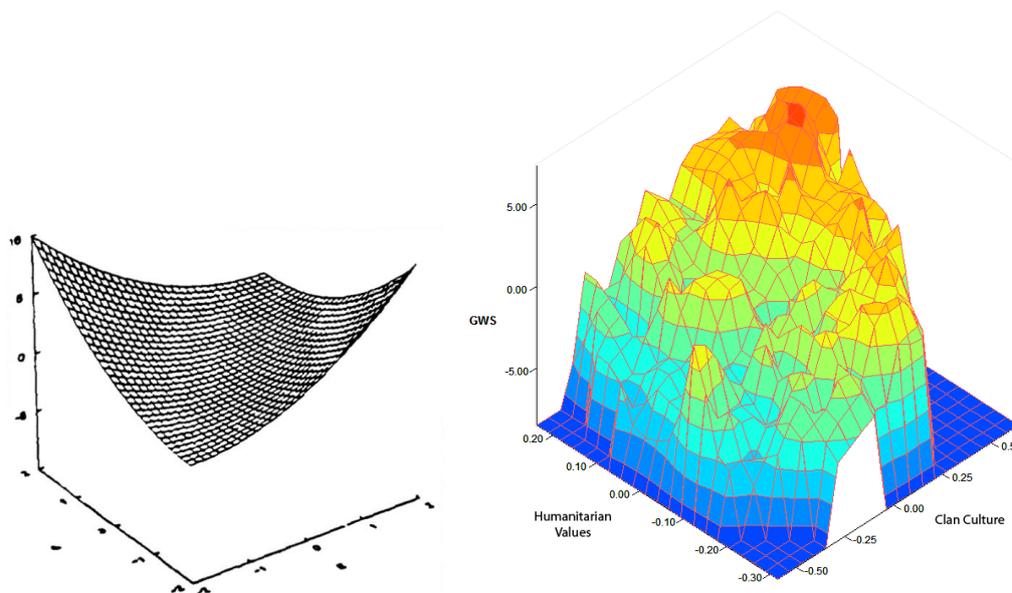


Figure 18. 'U-Shape' surface curve by Edwards and Cooper (1990, p. 298) and similarly shaped (although inverted) Clan/Humanitarian surface from the current study's results.

This tapering of the surface response plot was representative of the significant negative coefficient for the quadratic variant of the Clan culture indicator. By demonstrating a congruence effect on organizational outcomes for the aforementioned pairing, this analysis conformed with outcomes expected by the ASA hypothesis of Schneider and colleagues (Schneider, 1987; Schneider, et al., 1995; Schneider, et al., 1998). As Schneider predicted that the employee and organization should be similar to each other to avoid employee attrition, it was logical to predict that similar values preferences should mesh with similar culture preferences. As demonstrated by the analysis, there was a combined influence of similar values and culture preferences boosting the beneficial organizational related outcomes in the instance of Humanitarian values and Clan culture. The polynomial regression therefore produced theoretically consistent results indicative of this congruency overlap between the indicators.

This finding also extended the ASA model applications of Schneider (1987; Schneider, et al., 1995; Schneider, et al., 1998). Previously, person-organization fit testing of the same construct (i.e. values) has been demonstrated to present congruence effects

when predicting organizational outcomes. However in this instance evidence for a congruence effect between two thematically concordant but distinct variables was demonstrated. The preferences for a core aspect of the individual (values) appeared to have influence on workplace outcomes when it was closer to the broader cultural gestalt of their organization. The assessment of congruence for individuals therefore appeared to be based on a broader conceptualization of linked variables, instead of identical commensurate indicators sets for the person and organization as has been utilised in past congruence literature.

The congruence findings can also be considered with regards to Schwartz and Bardi's (2001) universal values hierarchy research. The humanitarian values indicator was composed of items that were ranked highly on their universally considered importance, according to Schwartz and Bardi. Given the general importance attributed to the kinds of values incorporated into the Humanitarian values indicator, it was plausible to suggest that (perceived) organizational preferences for Clan culture may be of general value due to its congruence-based benefits on organization outcomes. If employees had a general tendency to prefer values within the Humanitarian values indicator, then it followed that organizations would be generally likely to benefit from perceived culture preferences that bear a synergistic link with the aforementioned values. This is evidently a practical consideration for organizations. Given the evidence for the merits of congruence, and the ubiquity of higher preferences for values within the Humanitarian indicator, then perceptions of favouring a Clan-style culture are likely to net improvements in organizational outcomes. In summary, the data from the Humanitarian values and Clan culture polynomial regression reinforce past findings from meta-analytic studies of Verquer et al. (2003) and Kristof-Brown et al. (2005), while also demonstrating concordance with Schneider's ASA hypothesis. As a result it could be inferred that organizations that demonstrated preferences for Clan-style culture were likely to benefit from improved organizational outcomes, as a product of the generalised preference for Humanitarian-style values.

10.3.2.4. Adhocracy/Vision Congruence. Unlike the Humanitarian/Clan pairing, the Vision values and Adhocracy culture pairing did not produce results consistent with previous literature. It appeared that congruence was not captured via polynomial congruence analysis per Edwards (1994), and instead the linear component of Adhocracy culture was the lone significant predictor in the second step of the regression analysis. As a result, there was no evidence for values/cultural practices congruence for this pairing, which did not correspond with past meta-analytic findings of Verquer et al. (2003) and

Kristof-Brown et al. (2005). Verquer et al. and Kristof-Brown et al. both broadly noted the beneficial influences of congruence on the relevant organizational outcomes. Additionally, the results did not coincide with the mixed findings of Abbott et al. (2005), who noted a significant linear congruence effect for Vision values on Normative Organizational Commitment. While this form of commitment was present within the larger GWS variable, it was important to consider that Affective Organizational Commitment is also represented within the variable. Abbott et al. noted no significant congruence effects with regards to Vision values and Affective Organizational Commitment, therefore the Adhocracy/Vision congruence findings of the current study may be reflective of this result. Additionally, the manner in which the current congruence testing is based on pairing synergistic values and culture, is not directly equivalent to Abbott et al.'s work. Similarly, the failure to replicate Finegan's (2000) reported influence of Vision values on Affective commitment in an interactive manner was also likely to be due to the variable differences noted previously.

The lack of congruence findings due to the dominance of the Adhocracy culture indicator in the regression model did not appear to support the ASA hypothesis of Schneider and others (1987; Schneider, et al., 1995; Schneider, et al., 1998), at least with reference to the Vision values / Adhocracy culture pairing discussed here. This is a curious outcome, given that Schwartz and Bardi's (2001) universal values hierarchy rated highly the autonomous values that are incorporated in the Vision values factor. As will be discussed in the forthcoming methodological limitations, this may be due to the lessened importance of congruent creative values and culture patterns as a function of my study's sample. In summary the congruence analysis involving Vision values and the Adhocracy culture did not produce noteworthy results, instead failing to demonstrate significant congruence influences on organizational outcomes due to the synergy between the latter predictors.

10.3.2.5. Hierarchy / Adherence to Convention Congruence. The congruence testing via polynomial regression (Edwards, 1994) for the Adherence to Convention values and Hierarchy culture pairing indicated a significant congruence effect. This reinforced the influence of P-O fit on organizational outcomes. Additionally this confirmed previous meta-analytic findings by Verquer (2003) and others, in addition to Kristof-Brown et al.'s (2005) congruence findings. The pattern of significant indicators were highly representative of the findings of Abbott et al. (2005), who noted significant congruence effects with Conservative values congruence and Affective/Normative Organizational Commitment. These results were also in contrast to those of Finegan's (2000) original study, who noted little evidence of Adherence to Convention values congruence on organizational outcomes. With regards to surface response plot shape, the Adherence to Convention values and Hierarchy culture

indicated a significant linear congruence element, which was represented by an upwards tapering surface (see Figure 19). However, the additional downwards sloping curvature of the response surface was tempered by the significant quadratic component of the Hierarchy culture indicator. The significant negative coefficient of the quadratic indicator contributed to a surface similar to that as seen in Edwards and Cooper's (1990, p. 298). The Adherence to Convention values / Hierarchy culture surface also reflected the shape of the interactive surface due to its significant positive coefficient. As a result, the Adherence to Convention / Hierarchy congruence effect was complex in its influence on workplace satisfaction. These similarities in surfaces are represented in Figure 19.

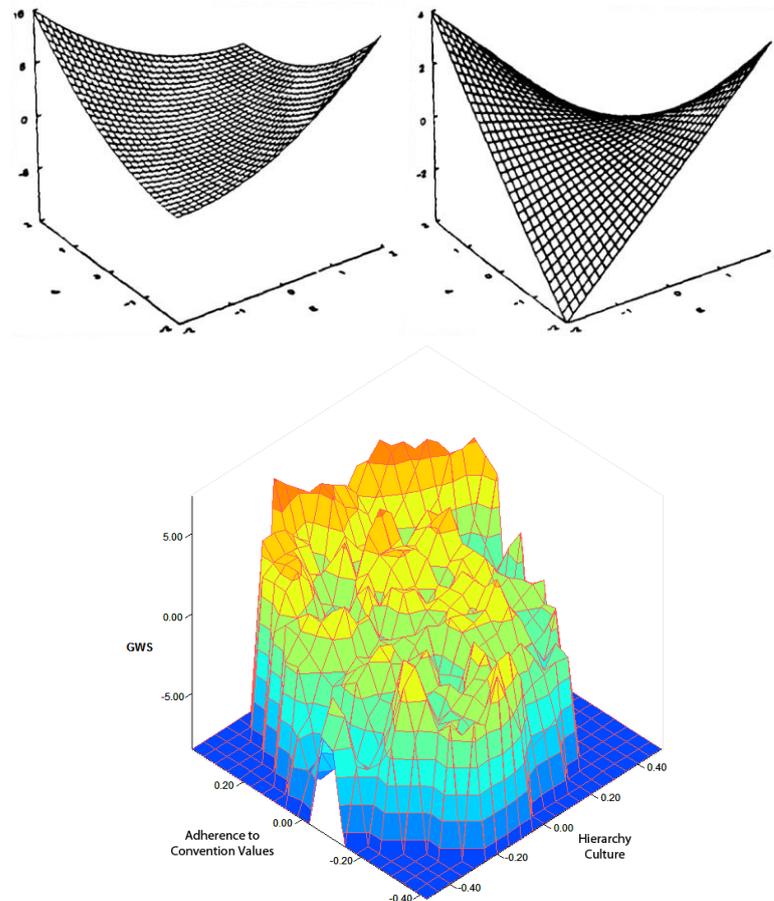


Figure 19. 'U-Shape' surface curve and Interactive surface curves of Edwards and Cooper (1990, p. 298), in comparison to the Adherence to Convention / Hierarchy surface of the current study.

In addition to the Adherence to Convention values / Hierarchy culture congruence findings being generally representative of past results in meta-analytic studies, the significant congruence effect also reinforced the effects of Schneider and colleagues' (Schneider, 1987; Schneider, et al., 1995; Schneider, et al., 1998) ASA hypothesis. It appeared that conservative, bureaucratic, or hierarchy-reinforcing values and cultural aspects were beneficial to organizational outcomes. Similar preferences for employees

values and perceived organizational culture preferences that represented the aforementioned conservative themes appeared to improve the outcomes of the organization, as predicted by the ASA model. The presence of a significant interactive term in the polynomial regression analysis indicated that the influence of congruence may not necessarily be limited to a strictly linear understanding. In summary, it could be inferred that matching employee expectations for bureaucratic/hierarchy related aspects of the workplace can be beneficial in terms of improving employee satisfaction, commitment, and/or reducing turnover, as per the GWS variable.

10.3.2.6. Market / Bottom-Line Oriented Congruence. The congruence analysis between the Bottom-Line Oriented values factor and the Market culture factor did not produce any significant evidence of congruence in the polynomial regression analysis. The quadratic form of Market culture with a significant negative coefficient value was the lone predictor of interest in the final polynomial regression analysis. However in its solitary state it was not indicative of any congruence effect that would influence workplace outcomes. The surface response plot was similarly difficult to interpret meaningfully. In short, the results of this polynomial regression analysis did not coincide with the results of previous meta-analytic studies by Verquer et al. (2003) and Kristof-Brown et al. (2005), and the polynomial regression analysis by Abbott et al. (2005). However, these results were reflective of the generally limited congruence effects associated with Bottom-Line oriented values presented by Finegan (2000). In summary, the polynomial congruence findings of the Bottom-Line Oriented values and Market culture combination generally did not represent previous congruence findings. However, as will be discussed further in the upcoming methodological limitations discussion, these results may be tied to the sample characteristics of the participants providing data for this analysis.

10.3.3. Methodological Limitations. A key methodological limitation relates to the available participant cohort used to provide the data for the analyses. The primary source of the participants was from local government, while the remaining participants were sourced from the private healthcare industry. These were the only types of organizations that agreed to be involved in my study, despite attempting to gather a wider variety of sourced organizations to fully reflect all possible culture factors. On the basis of these two sources of participants, there is a possible limitation in the types of values and/or culture aspects that may be represented in the organizations. As a consequence of Schneider's (1987) ASA hypothesis, the preferences held by the employees may have had limited variance in this regard. Provided that Schneider's ASA process influenced the type of employees sourced from each of the workplaces, it was possible that some of the

preferences for values and culture factors may be under-represented in the data as a product of the occupational backgrounds of the participants. Local government, for example, is generally epitomised by bureaucratic processes that enforce a strict hierarchy in decision making and enactment (Cameron & Quinn, 1999, 2006). The ordered process in which land zoning, garbage collection, community project budgets, and other associated aspects of local government work are conducted are arguably quite reflective of practices and values that are conducive to the Adherence to Convention values and Hierarchy culture factors (Cameron & Quinn). As a result, this might in part have explained why a significant congruence effect was reported during that phase of analysis. Conforming with an organizational body that (at least based on employee perceptions) is underpinned by a favourable perspective on bureaucratic methods of operation, would be likely to improve the likelihood of employee retention as per the ASA theory.

Focusing on the private healthcare organization, if asked to anecdotally consider what kinds of values or cultural preferences nurses, palliative care workers, and employees with similar jobs would bear, it is probable that humanist or benevolently oriented options would emerge. Gregory et al. (Gregory, et al., 2009) presented descriptive statistics that indicated a high preference for Group (aka. Clan) culture was evident among hospital managers. The private healthcare organization advertises itself online as representing the values of respect, compassion, and hospitality, which may influence the type of employee present at the hospital according to the ASA hypothesis (Schenider, 1987). It is perhaps unsurprising that the influence of values and culture congruence thematically aligned with the aforementioned areas was evident in the results of the analysis. These preferences were likely to be important to employees, and as a result, were likely to be important in their attraction to an organization that they believed reflected these kinds of values and cultural preferences as per the ASA theory.

When selecting employees suitable for positions in private healthcare, employers would theoretically be more likely to be selecting those they believe are reflective of these benevolent tendencies, as this would arguably be considered a 'good fit' for the job. This mirrors the previously described values the private healthcare attributes to itself on its website. The attraction and selection processes inherent in Schneider's (1987) ASA model appeared to be influential on the pattern of congruence results once more, as participants from the private health care organization were likely to be placing a higher importance on these humanistic areas. As a result, it is probable that they are likely to be more satisfied and committed to the workplace if they perceive it reflecting these persuasions. Even though the focus of this argument so far focuses on private healthcare employees, it is valid

to point out that the employees sourced from this occupational background were less represented in the cohort in comparison to the local government employees. However post-hoc of the private healthcare / local government organizations defies the previously stated goal of Type I error reduction through purposive, theoretically driven measurement. Additionally generalised patterns in congruence findings, and their influence on workplace satisfaction, is another key facet to this testing. To that point it was important to consider the influence of the generalised preference for values and cultural aspects reflective of the areas of benevolence, caring, and respect for others. Schwartz and Bardi (2001) have previously discussed the higher position in the hierarchy of universal values preferences was a properties of these types of values. It therefore would be expected that local government employees, on the merit of being human, would similarly apply importance to these areas being sufficiently congruent with their workplace for improved workplace satisfaction. In the descriptive statistics of IP values (see Section 9.1.1.) Humanitarian values had a very high mean value, further reinforcing this possibility of a generalised higher preference for values of this type. Due to an aspect of heightened relevance for the two aforementioned values/cultural preferences in my study's sample, this may have presented a possible reason as to why results supportive of congruence were derived from the conducted analyses.

Conversely, the non-significant congruence findings for the Adhocracy/Vision and Market/Bottom-Line Oriented indicators in the polynomial regression analyses may be due to properties of the sample. The aforementioned non-significant results may be due to the less salient nature of the represented values and cultures of the latter non-significant indicators of congruence. The private healthcare organization appeared to focus on caring, compassionate approaches to dealing with patient welfare, and applying an orderly, predictable method of working with patients based on the representative values presented on the organization's website. While both aspects are salient within the workplace, it is possible that creativity and the desire for autonomy are of lesser importance within this workplace environment. Similarly, competition and a hard-driving desire to be 'the best' in relation to other private healthcare providers may have been largely marginalised, based on the lack of alternative private healthcare suppliers of equivalent size in the area. As a result congruence between the related values and culture indicators underlying these areas may not be significantly influential on workplace outcomes due to their marginalised role in the participant's setting.

With regards to the local government employees, competitiveness and a desire to be 'the best' may have possibly been less important due to a similar lack of competition

with external sources. Employees that participated from these organizations were likely fulfilling a niche role as part of their local government responsibilities. Facilitating the provision of services to the community, to which there are no competing providers of the same nature, may have diminished the importance of competitive, hard-driving values and culture congruence and their influence on workplace outcomes. Additionally, the desire for innovation, creativity, and autonomy may have been undercut by the largely bureaucratic and stability-focused drive of local government organizations and their employees. This property would be concordant with the previously discussed reciprocal opposition aspect of the CVF and, by extension, the four factor values model (Nelson & Gopalan, 2003). As a result, congruence between employee and perceived organizational preferences for values and cultural aspects reflective of these areas may have had reduced impact on workplace outcomes.

As discussed previously, the saliency of specific values and culture preferences may have influenced the significance of the polynomial regression derived congruence results. In future studies, it would be valuable to source participants from profit-driven, market oriented sectors, as presumably congruence between employee and organizational preferences may be more relevant in influencing workplace satisfaction. Additionally, participant representation from sectors that value innovation and creativity would also be valuable to assess the influence of the Adhocracy culture / Vision values congruence effect on workplace outcomes. By attempting to gather participant responses from organizations that have a higher probability of representing all four stereotypical elements of values and culture, it is possible that future studies may demonstrate the values/culture congruence effect in the non-significant areas presented in the current analyses.

10.3.4. Values Congruence Conclusions. The support for the binary-patterned loading of thematically linked values and culture constructs was not supported. However, examination of congruence via polynomial regression indicated that the Clan/Humanitarian and Adherence to Convention / Hierarchy pairings were significant influences on workplace satisfaction. Therefore the theorised link between individual values preferences being an important link to congruence with the organization's culture was supported as part of the analysis. This in turn reinforced the ASA model's (Schneider, 1987) theorised links between congruent individual and organizational aspects. While these results were encouraging, evidence for the Adhocracy/Vision and Bottom-Line Oriented/Market links may have been reduced due to the methodological constraints. It is recommended that future studies attempt to replicate the values/culture congruence assessments with in different occupational settings. In summary, the investigation of congruence pertaining to the third

objective had variable support for values-culture congruence and its influence on workplace satisfaction.

CHAPTER 11: VALUES AND CULTURE COMPARISON RESULTS

This chapter examines the differences between values and culture predictors when accounting for the variance in GWS. To meet the fourth objective, these analyses investigate whether the perceived culture within an organization is able to account for significant variance in workplace satisfaction, after accounting for values. These analyses provide further detail on whether values-centric conceptualizations of culture render moot the need for holistic interpretations of culture. Section 11.2. presents the individual preference data comparisons between values and culture in the prediction of GWS. Section 11.3. presents the organizational preference data comparisons of the values and culture predictors in explaining the variance in GWS. Lastly Section 11.4. discusses the results in light of previous findings presented in the literature review.

11.1. Prior Checks and Assumptions. The assumptions of the Hierarchical Multiple Regression Analysis (HMRA) and Multilevel Modelling (MLM) procedures were fulfilled prior to conducting the analyses. Univariate normality was non-problematic based on the reduction of skewness/kurtosis to levels discussed in prior analyses. No univariate outliers were found through examination of standardised residuals on the entered variables, as all were below the calculated critical value for Weisberg's *t*. Multivariate outliers are discussed in the forthcoming results for the individual and perceived organizational preferences data separately, due to the differences in the combination of entered predictors for the two sets of analyses. Multicollinearity was assessed via a bivariate correlation matrix, and as all variables had a Pearson's $r < .80$, none of the variables were considered problematic in terms of multicollinearity.

As discussed in previous MLM analyses, the MLM estimation technique used in the following analyses is REML. GWS was centred prior to analysis, in addition to the group mean centred versions of the predictors/control variables being used in the upcoming analysis as per Heck et al.'s (2010) recommendation. The ratio of cases to parameters was approximately 30:1 for HMRA and 25:1 for MLM, which was above the recommended minimum of 20:1 suggested by Stevens (1986). However, as an ideal a ratio of >40:1 is generally preferred (Tabachnick & Fidell, 2007), the current ratio is unlikely to be able to detect smaller effects. Due to the limited practical applicability of smaller effect sizes (Tabachnick & Fidell), this was not considered of great importance to the current analyses.

11.2. Individual Values, Culture, and Organizational Outcomes. Prior to conducting the HMRA, checks on multivariate outliers as indicated by Mahalanobis' distances were conducted. Two cases, which had both a problematic Mahalanobis' and Cook's distance, were excluded from the upcoming analysis ($N = 325$). As conducted in

previous phases, a HMRA was first calculated to form a means of comparison with future MLM analyses (Heck, et al., 2010). The HMRA used the criterion variable Generalised Workplace Satisfaction (GWS) as the index of workplace outcomes. The ten predictors were loaded in the HMRA in the following blocks: 1) Occupational and Organizational tenure, 2) values factor predictors (Humanitarian/Vision/Adherence to Convention/Bottom-line Oriented), 3) culture factor predictors (Clan/Adhocracy/Hierarchy/Market).

The first block of the HMRA was significant, $F(2, 322) = 4.19, p = .016, R^2 = .03$, which indicated that the predictors in unison accounted for approximately 3% of the variance in GWS. The second step of the HMRA was also significant, $\Delta F(4, 318) = 8.75, p = .001, \Delta R^2 = .10$, which indicated that the values predictors explained an additional 10% of the variance in GWS. The third step of the HMRA was also significant, $\Delta F(4, 314) = 5.69, p = .001, \Delta R^2 = .06$, which indicated that the culture predictors explained an additional 6% of the variance in GWS. The combined model explained 18% of the variance in GWS, $F(10, 314) = 6.96, p = .001, R^2 = .18$. According to Cohen's (1988) effect size indicators, the calculated effect size $f^2 = .220$ was considered a moderate effect. The coefficients and significance of the predictors are presented in Table 48.

Table 48.

Unstandardised and Standardised Coefficients for Individual Preferences for Values and Culture Predictors when Predicting GWS ($N = 325$).

	<i>B</i>	<i>SE</i>	<i>B</i>	<i>p</i>	<i>sr</i> ²	<i>R</i> ²
Block One						
Occupational Tenure	.032	.019	.114	.092	.009	
Organizational Tenure	.030	.032	.064	.341	.003	
Δ						.025
Block Two						
Occupational Tenure	.023	.018	.082	.204	.004	
Organizational Tenure	.014	.031	.030	.651	.001	
Humanitarian Values	3.720	1.399	.195	.008**	.020	
Vision Values	-1.875	1.386	-.095	.177	.005	
Ad. Con. Values	3.132	1.185	.183	.009**	.019	
Bottom-Line Oriented Values	.714	.888	.051	.422	.002	
Δ						.097
Block Three						
Occupational Tenure	.015	.018	.054	.398	.002	
Organizational Tenure	.011	.030	.022	.725	.000	
Humanitarian Values	2.326	1.412	.122	.100	.007	
Vision Values	-.851	1.415	-.043	.548	.001	
Ad. Con. Values	2.947	1.231	.172	.017*	.015	

Bottom-Line Oriented Values	1.153	.879	.082	.191		.004
Clan Culture	2.863	1.329	.156	.032*		.012
Adhocracy Culture	-1.489	1.199	-.095	.215		.004
Market Culture	-3.041	1.105	-.179	.006**		.020
Hierarchy Culture	2.593	1.050	.158	.014*		.016
Δ						.059
Model Total						.181

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Four significant predictors of GWS were identified in the HMRA; preferences for Adherence to Convention values, and the Clan, Market, and Hierarchy culture predictors. The Humanitarian values predictor, while initially significant in predicting GWS in the second block of the HMRA, became a non-significant predictor after the introduction of the culture predictors. In summary, the HMRA model involving individual preferences for values and culture factors, in addition to being statistically significant, had both values and culture factors as significant predictors of the outcome variable.

To examine whether there was any variation in the previous findings when conducted via MLM, an MLM was conducted with an equivalent variable loading pattern as the previous HMRA. The coefficients of the null model, -2 Log Likelihood χ^2 (1, N = 325) = 1650.42, are presented in Table 49.

Table 49.
Test of Four Factor Values and Culture Models in Predicting GWS via MLM Analysis (N = 325).

	UE ^a	SE	df	t	Wald Z	χ^2	R ²	p
Null Model								
Fixed Effects								
Intercept	-.097	.343	10.04	-.28				.783
Random Effects								
Residual	9.022	.718			12.56			.000***
Intercept (Origin)	.839	.512			1.64			.051
Δ						1650.42		
First Block								
Fixed Effects								
Intercept	-.0911	.344	10.04	-.27				.796
Occupational Tenure	.028	.018	315.59	1.51				.132
Organizational Tenure	.010	.032	317.04	.32				.751
Random Effects								
Residual	8.900	.709			12.56			.000***

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Intercept (Origin)	.846	.514		1.65		.050
Δ Within					4.27	.118
Second Block						
Fixed Effects						
Intercept	-.080	.340	10.10	-.23		.819
Occupational Tenure	.021	.018	315.62	1.20		.230
Organizational Tenure	-.002	.031	316.85	-.07		.945
Humanitarian Values	3.349	1.361	315.71	2.46		.014*
Vision Values	-1.740	1.346	315.71	-1.29		.197
Ad. Con. Values	2.420	1.155	315.61	2.10		.037*
Bottom-Line Values	1.364	.872	315.57	1.56		.119
Random Effects						
Residual	8.110	.646		12.56		.000***
Intercept (Origin)	.846	.502		1.69		.046*
Δ Within					29.54	.001***
Third Block						
Fixed Effects						
Intercept	-.081	.339	10.14	-.24		.815
Occupational Tenure	.0142	.018	315.59	.81		.419
Organizational Tenure	-.002	.030	316.84	-.05		.959
Humanitarian Values	2.120	1.376	315.74	1.54		.124
Vision Values	-.855	1.372	315.71	-.62		.534
Ad. Con. Values	2.494	1.195	315.59	2.09		.038*
Bottom-Line Values	1.643	.866	315.60	1.90		.058
Clan Culture	2.399	1.298	315.96	1.85		.066
Adhocracy Culture	-1.189	1.168	315.94	-1.02		.309
Market Culture	-2.869	1.071	315.74	-2.68		.008**
Hierarchy Culture	2.033	1.026	315.80	1.98		.048*
Random Effects						
Residual	7.68	.612		12.56		.000***
Intercept (Origin)	.85	.499		1.71		.044*
Δ Within					17.11	.002**
Δ Total					50.91	.001***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. ^a Unstandardised Estimate.

In a solution similar to that of the HMRA analysis, the MLM presented one significant values indicator, Adherence to Convention values, and two significant culture indicators, Market culture and Hierarchy culture. The remaining values, culture, and control predictors did not appear to significantly predict GWS when modelled with the previously described significant predictor variables. Calculation of the within-group R^2 to determine

the amount of variance the predictors in unison accounted for in GWS, $R^2 = .149$ or approximately 14.9% of the variance in GWS was accounted for by the entered predictors. The random intercept was significant ($p = .044$, one-tailed), which indicated significant variability across organizations represented in the sample. Explaining this significant amount of existing between-groups variance was not part of the goals of the current analysis.

Compared to the HMRA conducted previously, there was an obvious difference in the significant predictors of GWS in the MLM model. While Adherence to Convention values were a significant predictor of GWS in both the HMRA and MLM models, the culture indicators varied across analyses. Clan culture, a statistically significant predictor in the HMRA, was demoted to non-statistical significance in the MLM analysis. Given the significant influence of between-organizational variability in GWS values, the initial significance of Clan culture in the HMRA may have been misappropriated variability influenced by notable between-organizational variability. As a result, the HMRA derived results presented a Type I error in this instance, as not accounting for between-organizational differences inherent in the HMRA led to a spurious relationship between Clan culture and GWS. In summary, both IP values and culture predictors were significant in predicting GWS, however the pattern of significant predictors varied between the HMRA and MLM analyses.

Mixed support for the hypotheses pertinent to the fourth objective was obtained for the IP data. Hypothesis 21a was not supported by the results. As IP data for Adherence to Convention values was statistically significant in the MLM analysis, the values predictors did not all become non-significant following the introduction of the culture predictors as anticipated in hypothesis 21a. Additionally hypothesis 22a was partially supported by the results, as Clan culture was assessed as a statistically non-significant indicator of GWS in the MLM analysis despite its statistical significance in the preceding HMRA. It appeared that after accounting for between-organizational variance in GWS, Clan culture was not a statistically significant predictor of GWS. Therefore this change from statistical significance to non-significance between the HMRA and MLM analyses partially supported hypothesis 22a. Hypothesis 23 was supported by the analyses, as significant thematically linked predictors (in this instance Adherence to Convention values and Hierarchy culture) beared identical coefficient directions. Therefore there was mixed support for the values and culture comparisons investigated as part of the fourth objective.

11.3. Organizational Values, Culture, and Outcomes. The following analysis used the OP data for values and culture factors to predict GWS using HMRA and MLM analysis.

The pattern of predictor entry was the same as the IP model presented previously. Three cases were excluded from the upcoming analyses due to a combination of problematic Mahalanobis' and Cook's distances ($N = 324$).

The first block of the HMRA was significant, $F(2, 321) = 4.68, p = .010, R^2 = .03$, indicating that the control variables in unison accounted for approximately 3% of the variance in GWS. The second block of the HMRA was also significant, $\Delta F(4, 317) = 57.38, p = .001, \Delta R^2 = .41$, indicating that the values predictors explained an additional 41% of the variance in GWS. The third Block of the HMRA was also significant, $\Delta F(4, 313) = 23.42, p = .001, \Delta R^2 = .13$, indicating that the culture predictors explained an additional 13% of the variance in GWS. The combined model explained 57% of the variance in GWS, $F(10, 313) = 40.86, p = .001, R^2 = .57$. According to Cohen's (1988) effect size indicators, the calculated effect size $f^2 = 1.304$ was considered a large effect. The coefficients and significance of the indicators is presented in Table 50.

Table 50.

Unstandardised and Standardised Coefficients for Perceived Organizational Preferences for Values and Culture Predictors when Predicting GWS ($N = 324$).

	<i>B</i>	<i>SE</i>	<i>B</i>	<i>p</i>	<i>sr</i> ²	<i>R</i> ²
Block One						
Occupational Tenure	.035	.019	.122	.069	.010	
Organizational Tenure	.031	.032	.065	.333	.003	
Δ						.028
Block Two						
Occupational Tenure	.032	.015	.114	.030*	.008	
Organizational Tenure	.006	.025	.012	.823	.000	
Humanitarian Values	10.354	1.641	.472	.001***	.071	
Vision Values	.922	.279	.208	.001**	.019	
Ad. Con. Values	-.014	.318	-.003	.964	.000	
Bottom-Line Oriented Values	.116	1.509	.005	.939	.000	
Δ						.408
Block Three						
Occupational Tenure	.021	.013	.073	.119	.003	
Organizational Tenure	.017	.022	.036	.432	.001	
Humanitarian Values	5.072	1.611	.231	.002**	.014	
Vision Values	.379	.278	.086	.175	.003	
Ad. Con. Values	.012	.282	.002	.966	.000	
Bottom-Line Oriented Values	.475	1.374	.019	.730	.000	
Clan Culture	3.847	.759	.337	.001***	.036	
Adhocracy Culture	.868	.255	.219	.001**	.016	

Market Culture	-2.535	.694	-.175	.001 ^{***}	.018
Hierarchy Culture	.199	.709	.013	.779	.000
Δ					.130
Model Total					.566

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

The control variables of occupational and organizational tenure were non-significant in all three blocks of the analysis. Humanitarian values, in addition to Clan, Adhocracy, and Market cultures preferences were significant predictors of GWS. All significant predictors had positive coefficients besides preferences for Market culture, which presented a negative coefficient. To determine whether these results were consistent when taking into account between-groups variability, the same variables were examined using MLM.

Due to the difference in the number of participant cases involved in my study, the null model was again respecified. The coefficients of the null model, -2 Log Likelihood χ^2 (1, $N = 324$) = 1646.21, are presented in Table 51.

Table 51.
Test of Four Factor Values and Culture Models in Predicting GWS ($N = 324$).

	UE ^a	SE	df	t	Wald Z	χ^2	R ²	p
Null Model								
Fixed Effects								
Intercept	-.107	.364	10.01	-.29				.775
Random Effects								
Residual	9.013	.719			12.54			.001 ^{***}
Intercept (Origin)	.983	.580			1.70			.045 [*]
Δ						1646.21		
First Block								
Fixed Effects								
Intercept	-.099	.363	10.00	-.27				.791
Occupational Tenure	.030	.018	314.46	1.65				.101
Organizational Tenure	.007	.032	315.90	.23				.817
Random Effects								
Residual	8.882	.708			12.54			.001 ^{***}
Intercept (Origin)	.982	.578			1.70			.045 [*]
ΔWithin						4.64	.015	.098
Second Block								
Fixed Effects								

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Intercept	-.136	.368	10.21	-.37		.720
Occupational Tenure	.030	.015	314.40	2.04		.042*
Organizational Tenure	.008	.025	315.50	.32		.750
Humanitarian Values	10.534	1.693	314.39	6.22		.001***
Vision Values	.975	.278	314.45	3.51		.001**
Ad. Con. Values	-.130	.319	314.51	-.41		.684
Bottom-Line Values	-.310	1.479	314.43	-.21		.834
Random Effects						
Residual	5.374	.429		12.54		.001***
Intercept (Origin)	1.143	.595		1.92		.028*
ΔWithin				157.61	.404	.001***
Fixed Effects						
Intercept	-.144	.370	10.23	-.39		.705
Occupational Tenure	.021	.013	314.35	1.64		.101
Organizational Tenure	.018	.022	315.28	.82		.415
Humanitarian Values	5.327	1.638	314.33	3.25		.001**
Vision Values	.409	.273	314.36	1.50		.134
Ad. Con. Values	-.046	.282	314.44	-.16		.870
Bottom-Line Values	.367	1.335	314.36	.28		.784
Clan Culture	3.810	.763	314.35	5.00		.001***
Adhocracy Culture	.885	.252	314.35	3.5		.001**
Market Culture	-2.547	.676	314.39	-3.77		.001***
Hierarchy Culture	.129	.695	314.40	.19		.853
Random Effects						
Residual	4.139	.330		12.54		.000***
Intercept (Origin)	1.205	.603		2.00		.023*
ΔWithin				81.91	.230	.001***
Δ Total				244.15	.541	.001***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. ^a Unstandardised Estimate.

Mirroring the results from the HMRA, Humanitarian values, and the Clan, Adhocracy, and Market cultures were statistically significant predictors of GWS. In combination, the fixed predictors accounted for approximately 54.1% of the variance in GWS ($R^2 = .541$). These results were comparable to that of the HMRA, indicating that between-groups variability had not significantly influenced the pattern of significant predictors of within-groups variances in the current model. It was again interesting to note that the between-groups variance left unaccounted for was statistically significant ($p = .023$, one-tailed). In summary, Humanitarian values, and the Clan, Adhocracy, and Market culture factors were significant predictors of GWS in both the HMRA model and the MLM model.

11.4. Values and Culture Differentiation Discussion

11.4.1. Hypothesis Validation. Table 54 summarises the results pertaining to the fourth objective of my study.

Table 52.

Summary of the Testable Hypotheses Relevant to my study's Fourth Objective.

Hypothesis Number	Description	Supported
21a	Values predictors will become non-significant after entry of the culture predictors in the following block during HMRA / MLM analysis for individual preferences data.	No
21b	Values predictors will become non-significant after entry of the culture predictors in the following block during HMRA / MLM analysis for the perceived organizational preferences data.	No
22a	Significant values and culture predictors of workplace outcomes will become non-significant predictors after accounting for between-organizational variability in the criterion variable, when employing the individual preferences data.	Partial
22b	Significant values and culture predictors of workplace outcomes will become non-significant predictors after accounting for between-organizational variability in the criterion variable, when employing the perceived organizational preferences data.	No
23	Significant and thematically linked values and culture predictors, provided that they are both linear or non-linear terms, will bear the same coefficient directions.	Yes

Hypotheses 21a and 21b, which predicted that the values predictors would become non-significant after the introduction of the holistic culture predictors, was not supported. Both individual preferences and perceived organizational preferences data suggested that the holistic interpretation of culture provided by the OCAI (Cameron & Quinn, 1999, 2006) explained an additional amount of the variance in GWS as anticipated. However, values predictors were not entirely nullified in each analysis following the addition of the culture predictors. Therefore both culture and values predictors appeared to be important in accounting for the variability of workplace satisfaction.

Hypotheses 22a, which predicted that the significant values and culture predictors would not remain significant following the accounting for of between-groups variability, was partially supported by the results. Clan culture was identified as a significant predictor of workplace satisfaction in the HMRA, however in the following MLM analysis it was demoted to non-significance. It appeared that the variance remaining after the between-organizational variability in GWS values had been accounted for was not significantly influenced by Clan culture preferences. However, hypothesis 22b was not supported by the analyses. The perceived organizational preferences data used in the HRMA and MLM

models was consistent in terms of its significant predictors even after accounting for between-organizational variability. As a result, the organizational preferences models did not have any overtly spurious relationships between predictors and workplace satisfaction.

Hypothesis 23, which suggested that if both values and culture predictors were found to be significant, that they would share identical coefficient directions based on previously hypothesised thematic linkages, was also supported. The individual preferences data MLM model had a significant Adherence to Convention Values predictor and Hierarchy culture predictor, which shared identical coefficient directions. Additionally the significant Clan culture and Humanitarian values predictors shared coefficient directions when using the perceived organizational preferences data, further validating this hypothesis. As no other thematically linked pairings of values/culture predictors were significant in the analysis results, the means of further testing this hypothesis were understandably limited.

11.4.2. Theoretical Implications. There are several implications for the values-centric focus on culture due to the predictive benefits of a holistic interpretation of culture. Values alone do not appear to capture the same degree of explained variance as a holistic culture measurement method such as that of Hofstede et al. (1990) or Cameron and Quinn (1999, 2006). The summed unique variability accounted for by the culture predictors was greater than that of the values predictors in both models. Therefore the values-centric method of predicting workplace outcomes appeared to lack a degree of predictive depth, at least in the context of the analyses performed previously. While it was evident that some of the values indicators significant unique portions of the variance in GWS in each analysis, these results call into question values' validity as a *sole* indicator of culture.

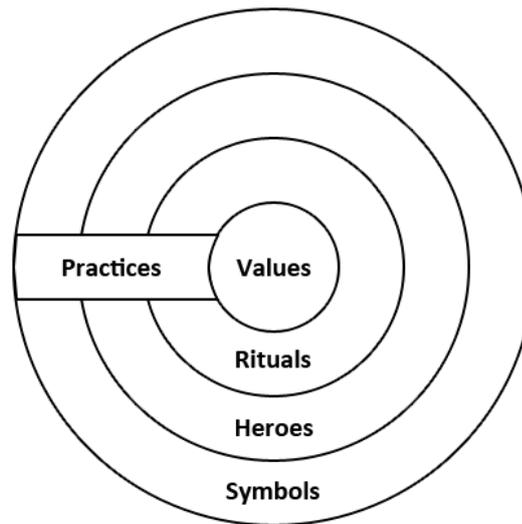


Figure 20. Model of culture as proposed by Hofstede et al. (1990, p. 291). Adapted from Hofstede, G., Neuijen, B., Ohayv, D. D., & Sanders, G. (1990). Measuring organizational cultures: A qualitative and quantitative study across twenty cases. *Administrative Science Quarterly*, 35, 286-316.

The key advantage of the values-centric approach to culture measure was model parsimony. By focusing primarily on values as an index of organizational culture, a values-centric approach to values such as the OCP (O'Reilly, et al., 1991) provided a means of clarifying the ambiguity present in the culture literature by associating it primarily with values. However it appeared that Hofstede's statements regarding the importance of practices and processes within the workplace, as a key indicator of culture, were correct in this instance. While the CVF holds 'core values' as part of its underlying structure (Cameron & Quinn, 1999, 2006) akin to that of Hofstede's (1998; Hofstede, et al., 1990) model presented in Figure 20, the outwardly identifiable aspects of culture appeared to significantly add to the predictive utility of the model. Measurement of culture that relied solely on values and their congruence may be lacking in predictive validity due to its limitations of scope. Additionally the validity of a values-centric measure being used to measure values or culture, depending on the researcher's perspective, may be similarly questionable. While a measure such as the OCP (O'Reilly, et al.) has been used as a measure of culture (e.g., Bellou, 2010) and a measure of values (e.g., Bocchino, et al., 2003), the degree of synonymy regarding values and culture does not appear to justify this kind of swapping on the basis of the current analyses. Values and culture cannot be treated with equality in this manner, as it appears that values are subsumed within the larger framework of culture as previously suggested by Schein (1990) and Hofstede et al. (1990), among others.

Secondly, a divide between the substantive validity in measuring values or culture appears to occur depending on the frame of reference. The results indicated that individual preferences appeared to be less influential than perceived organizational preferences when estimating workplace outcomes, to the effect of a 39% increase in explained variance across models. The consistency of this effect throughout the analyses conducted in my study seemed to indicate that perceived organizational preferences were an important factor in deciding how satisfied employees were within the workplace. While this will be discussed in greater detail in the forthcoming General Discussion in light of Schneider's (1987) ASA model, this finding reinforced the importance of managing how organizations present themselves to employees.

11.4.3. Methodological Limitations. As noted in previous analyses, methodological limitations pertaining to my study's sample may have influenced the results of my study. When examining the significant predictors in the HMRA/MLM analyses, they represent values and culture preferences that appear to be more relevant in the framework of local government / private healthcare than those bearing non-significant coefficient values. For individual preferences, Adherence to Convention values, Hierarchy culture (both positive), and Market culture (negative) bear significant predictors and coefficient directions that may be reflective of the organizational context they are sourced from. For perceived organizational preferences, Humanitarian values, Clan and Adhocracy cultures (positive), and Market culture (negative) represented a similar pattern of significant coefficients when predicting GWS. The individual-level coefficients seemed to describe the base aspects of individuals well suited to the demands of local government / private healthcare. Individuals ideally preferring a structured, measured approach at work, while bearing disinterest for hard-driving and overly competitive aspects, were the most satisfied employees. Paired with the organizational preferences data, wherein participants preferred organizations perceived to value inclusive and stimulating environments while downplaying hard-driving/competitive processes, the findings may be more representative of the environments specific to the organizations sampled.

While the overlap between individual/organizational perceived preferences was supportive of the ASA model (Schneider, 1987), a key point is that these significant predictors may not necessarily be significant, or bear the same coefficient directions, in studies sampling from different organizations. Focusing on Market culture as an example, Market culture could arguably be a significant predictor with a positive coefficient provided that this culture factor was measured in an environment that supported it, (i.e. a real-estate agency). While these may not be methodological limitations per se, and instead

demonstrate the processes of the ASA model emphasising fit over specific preferences, inferences that Market culture was inherently negative due to its negative effect in the current analyses should be cautioned against. Instead Market culture's negative coefficient may have in part been due to the types of organizations sampled in the current study, thereby highlighting an aspect of inferential caution as a function of the sampled organizations.

11.4.4. Conclusion. This chapter examined the diverging influences of values and a holistic conceptualization of culture on organizational outcomes. Due to the switching of values-centric models of culture between their culture measurement intentions and their values measurement root functions, it was important to estimate whether culture was wholly represented by values. Both individual and perceived organizational preferences indicated that holistic culture added a significant amount of explained variability in predicting GWS after controlling for values, suggesting that a values-centric method of measuring culture lost content validity. Substituting between values and culture in discussing either term was not recommended, due to the lack of synonymy between the constructs. These findings confirm the need to treat culture as a construct separate from values, and the importance of avoiding values-centric interpretations of culture.

CHAPTER 12: GENERAL DISCUSSION

12.1. Chapter Introduction. This final chapter summarises the overall theoretical and practical importance of the findings presented in the previous four chapters.

12.2. Overview of Thesis Aim and Objectives. The objectives of my study are reflective of the aim of validating the culture and values measures and mapping their factor relationships with workplace satisfaction. These objectives additionally represent the aim of clarifying the congruence effect and differentiation between culture and values, and their impact on workplace satisfaction. To provide an overview of my study's objectives, Table 53 presents the objectives that guided the previously presented analyses and results sections in Chapters 8 to 11.

Table 53.

Overview of Study Objectives

Obj. ^a	Obj. Description
1a	Validation of the OCAI as a statistically adequate model of culture.
1b	Demonstration of anticipated relationships between culture factors and workplace satisfaction.
2a	Validation of Finegan's (2000) four factor model as statistically adequate.
2b	Demonstration of relationships between values factors and workplace satisfaction.
3a	Congruence between values and culture factors will be evident.
3b	Congruence between values and culture factors will influence workplace satisfaction.
4	Examination of additional variance explained by culture (practices) in light of the variance already explained by the values predictors with regards to workplace satisfaction.

12.3. Objectives and Hypotheses Overview

12.3.1. Objective One and Hypotheses. The hypotheses pertinent to the first objective and their support from the results of my study are presented in Table 54. These hypotheses are reflective of the investigation of the structural validation of the OCAI (Cameron & Quinn, 1999, 2006) and its factor preference relationships with workplace satisfaction.

Table 54.

Summary of the Support for the Testable Hypotheses Relevant to the Culture-Based Analyses

Hypothesis Number	Description	Supported
1a	The item-factor structure for the OCAI (Cameron & Quinn, 1999, 2006) for the employee preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.	Partial
1b	The item-factor structure for the OCAI (Cameron & Quinn) for the perceived organizational preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.	Partial
2	Job Satisfaction, Organizational Commitment, and Turnover	Yes

	Intention will all load with adequate model fit on a single factor to indicate their unidimensionality.	
3	The unidimensional Generalised Workplace Satisfaction variable will produce a calculated Cronbach's (1951) alpha statistic in excess of .70.	Yes
4a	Individual preferences for Clan culture will positively account for significant unique variance in GWS.	No
4b	Perceived organizational preferences for Clan culture will positively account for significant unique variance in GWS.	Yes
5a	Individual preferences for Hierarchy culture will negatively account for significant unique variance in GWS.	No
5b	Perceived organizational preferences for Hierarchy culture will negatively account for significant unique variance in GWS.	Yes
6a	Individual preferences for Adhocracy culture will account for significant unique variance in GWS.	No
6b	Perceived organizational preferences for Adhocracy culture will account for significant unique variance in GWS.	Yes
7a	Individual preferences for Market culture will account for significant unique variance in GWS.	Yes
7b	Perceived organizational preferences for Market culture will account for significant unique variance in GWS.	Yes
8	The MLM analyses will indicate significant influence of between-organizational variability on the GWS criterion variable.	Yes
9	No significant culture indicators in the HMRA will become non-significant indicators during the equivalent MLM analyses.	No

In the series of analyses that addressed objective one, a major finding was the validation of the OCAI (Cameron & Quinn, 1999, 2006) via confirmatory factor analysis for both the IP and OP data. To my knowledge this has not been tested previously, therefore this is an important step in validating the validity of the measurement tool. One caveat to this validation was the remapping of one of the Hierarchy indicators to the Clan culture factor, which occurred in both IP and OP data analyses. In light of this minor alteration to the model configuration, the OCAI was successfully validated.

The findings have demonstrated that the culture-outcomes relationships between specific factors were not consistent between IP and OP data. In addition the OP data factors accounted for a notably larger amount of variance in GWS in comparison to IP data. These results highlighted the diverging preference-outcome relationships that exist depending on variations of perspective, which has previously been covered generally in terms of measure commensurability prior to congruence testing. Noting deviations in IP and OP patterns outside of a focus on congruence is an important area of culture research to highlight, as it may infer a need to focus on the OP data over the IP data when examining culture-

outcomes relationships. Due to the larger amount of variance accounted for by OP data, it may have practical ramifications for culture measurement. OP measurement alone may suffice for summarising the influence of culture preferences on outcomes, outside of any additional investigation of congruence effects, due to IP data relationships being comparatively marginalised. However, as IP data is required alongside OP data for any congruence-related testing, the greater value of OP data in culture-outcomes assessment will presumably be rendered moot in analyses of culture that involve congruence testing.

Culture-outcomes relations were modified on the basis of the accounting-for of between-organizational variability in workplace satisfaction, as evidenced in the HMRA/MLM comparative analyses. This finding highlights a salient point regarding the probability of Type I error in reported culture-outcomes results that may have previously occurred as a function of this between-organizational variability. These findings have provided further information regarding the validity of the OCAI and its factor associations with workplace outcomes.

12.3.2. Objective Two and Hypotheses. The second objective's hypotheses and their support based on the previously presented results are included in Table 55. These hypotheses relate to the investigation of Finegan's (2000) four factor values model and its relationships with workplace satisfaction.

Table 55.
Summary of the Support for the Testable Hypotheses Relevant to the Values-Based Analyses

Hypothesis Number	Description	Supported
10a	The item-factor structure for the FFVM (Finegan, 2000) for the employee preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.	Partial
10b	The item-factor structure for the FFVM (Finegan, 2000) for the perceived organizational preferences data will demonstrate better model fit than a single factor solution, when tested via confirmatory factor analysis.	Partial
11a	Individual preferences for Humanitarian values will positively account for significant unique variance in GWS.	No
11b	Perceived organizational preferences for Humanitarian values will positively account for significant unique variance in GWS.	Yes
12a	Individual preferences for Vision values will positively account for significant unique variance in GWS.	No
12b	Perceived organizational preferences for Vision values will positively account for significant unique variance in GWS.	Yes
13a	Individual preferences for Adherence to Convention values will account for significant unique variance in GWS.	Yes
13b	Perceived organizational preferences for Adherence to Convention values will account for significant unique variance in GWS.	No

14a	Individual preferences for Bottom-Line Oriented values will account for significant unique variance in GWS.	No
14b	Perceived organizational preferences for Bottom-Line Oriented values will account for significant unique variance in GWS.	No
15	Significant values indicators in the HMRA will become non-significant indicators during the equivalent MLM analyses.	Partial

The findings pertaining to the second objective were broadly supportive of the factor structure previously presented by Finegan (2000) when modelling organizational values. The model configuration varied between the IP and OP data, which suggested that values may be considered differently depending on the perspective that they are assessed from. This is an important finding, as values judgements may be differentially affected by biases depending on the frame of reference.

Additional support for values-outcomes relationships were also presented as part of the investigation of the second objective. Variations in the values-outcomes relationships mirrored the IP and OP culture-outcomes relationship variations described in Section 12.3.1., which presented evidence of IP and OP correlations varying with regard to workplace outcomes. The analysis of the values-outcomes relationships also presented evidence for variability in statistically significant indicators depending on whether between-organizational variability in the criterion was accounted for. These findings are important, as they confirm that values perceptions are a significant indicator of workplace satisfaction, and the pattern of values-outcomes links are variable depending on the type of values factor being considered (i.e. Humanitarian values having different relationships with GWS in comparison to Bottom-Line Oriented values). Additionally, values-outcomes relationships may be vulnerable to increased Type I errors in reported results when between-organizational variability is not considered in terms of its effect on workplace satisfaction.

12.3.3. Objective Three and Hypotheses. The third objective examined congruence between IP for values and OP for culture, based on the theorised link between these preferences on the basis of the Attraction Selection Attrition model (Schneider, 1987). Table 56 presents the hypotheses pertinent to the third objective and their support based on the study results.

Table 56.

Summary of the Support for the Testable Hypotheses Relevant to the Congruence-Based Analyses.

Hypothesis Number	Description	Supported
16a	Preferences from the individual's perspective for the values and culture factors will demonstrate adequate model fit criteria.	No
16b	A theoretically justifiable model relative to H16a can be	No

	extracted.	
17a	Preferences from the perceived organizational preferences data for the values and culture factors will demonstrate adequate model fit criteria.	No
17b	The model extracted relative to H17a will be interpretable in a manner theoretically justifiable.	No
18	Difference scores will be significant indicators of workplace outcomes.	Partial
19a	Polynomial regression for Humanitarian values / Clan culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.	Yes
19b	Polynomial regression for Vision values / Adhocracy culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.	No
19c	Polynomial regression for Adherence to Convention values / Hierarchy culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.	Yes
19d	Polynomial regression for Bottom-Line Oriented values / Market culture congruence will indicate a significant amount of unique variance in GWS is jointly accounted for by the predictors.	No
20	Any significant difference scores congruence predictor should explain less of the variability in GWS compared to the parallel polynomial regression tested equivalent.	Yes

Two key findings were derived from the analyses pertinent to the third objective. Contrary to predictions regarding the clustering of thematically linked values/culture factors, the exploratory factor analysis results were not supportive of these theorised relationships. The exploratory factor analysis results did not conform to any of the expected configurations described in the study rationale, and were not interpretable in a theoretically justifiable manner. Therefore similarities between values and culture factors suggested by the structural overlap of the models of Finegan (2000) and Cameron and Quinn (1999, 2006) respectively was not found, contrary to the ASA theory (Schneider, 1987) guiding these predictions.

Secondly, the values/culture pairs used in polynomial regression were a successful indicator of linear and non-linear congruence components influencing workplace satisfaction. This was a significant finding as it supported the theorised importance of the overlap between values and culture, in a pattern contrary to that of the previous exploratory factor analysis results, in the context of their influence on workplace satisfaction. Two of the values-culture pairings were significant, while the remaining two pairings were not. Methodological influences on these results, such as the profile of the organizations involved in the study, were a suspected factor that limited the extent of these

results. This was previously outlined in the discussion pertinent to these results (see Section 10.3.3.).

12.3.4. Objective Four and Hypotheses. Objective four investigated whether an interpretation of organizational culture that included organizational practices and processes would be redundant following a values-centric interpretation of culture. Table 57 presents the relevant hypotheses and support based on the analyses.

Table 57.

Summary of the Testable Hypotheses Relevant to the Values and Culture Differentiation Analyses.

Hypothesis Number	Description	Supported
21a	Values predictors will become non-significant after entry of the culture predictors in the following block during HMRA / MLM analysis for individual preferences data.	No
21b	Values predictors will become non-significant after entry of the culture predictors in the following block during HMRA / MLM analysis for the perceived organizational preferences data.	No
22a	Significant values and culture predictors of workplace outcomes will become non-significant predictors after accounting for between-organizational variability in the criterion variable, when employing the individual preferences data.	Partial
22b	Significant values and culture predictors of workplace outcomes will become non-significant predictors after accounting for between-organizational variability in the criterion variable, when employing the perceived organizational preferences data.	No
23	Significant and thematically linked values and culture predictors, provided that they are both linear or non-linear terms, will bear the same coefficient directions.	Yes

The analyses pertinent to the fourth objective demonstrated that holistic culture explained statistically significant variance in workplace satisfaction beyond that of a values-only interpretation of culture. This outcome was repeated for both IP and OP data.

Consequently the values-centric interpretation of culture may not be as valid an interpretation of culture as the holistic interpretation, due to the holistic variant's addition of practices/processes during assessment. This is an important finding, as it highlights the difficulty encountered in conceptualising culture in a manner that is both parsimonious, yet sufficiently exhaustive to ensure content validity.

OP data was again of greater importance in predicting workplace satisfaction in comparison to IP data. The analyses reflective of objective four consolidated the pattern of OP data importance with regards to workplace satisfaction that was present throughout the analyses. This is another important focus of consideration, as it reinforces the importance

of monitoring employee perceptions of the organization echoed in the literature review previously. In summary, the findings related to objective four demonstrated that content validity considerations were important in measuring how culture influences workplace outcomes.

12.3.5. Summary of Objective Outcomes. Several themes have emerged in the process of conducting these analyses. Firstly, the divergence in model structures between employee perceptions and perceived organizational perceptions may have been indicative of interpretative differences associated with values measurement, depending on the frame of reference. Secondly, differences between organizations were significant influences on generalised workplace outcomes in all of the conducted multilevel modelling analyses. While hierarchical multiple regression analysis is well-suited to examining the influences of organizational predictors on a workplace outcome, the amount of variability attributable to differences in locale had a noticeable impact on variability in the criterion. Thirdly, a holistic interpretation of organizational culture seemed to be more useful than values alone in predicting organizational outcomes, which has implications for culture measurement methods that rely solely on values. Lastly, the overriding importance of perceptions of organizational preferences for values/culture and their influence on organizational outcomes reinforced the general importance attributed to image management by organizations. These areas are covered in the following general discussion of theoretical implications and practical implications.

12.4. Study Limitations. The following section describes the possible limitations that may have had a general influence on the study findings.

12.4.1. Sample Limitations. My study originally intended to involve participants from several organizational backgrounds with the intention to improve variability in the cultures/values represented in the study (see Section 7.4.). Internet service providers (theorised to be representative of Adhocracy culture / Vision values) and boutique dairy product manufacturers (theorised to be representative of Market culture / Bottom-Line Oriented values) were approached, but did not participate. In light of the significant congruence findings for Humanitarian values / Clan culture and Adherence to Convention values / Hierarchy culture, the lack of congruence effects on workplace satisfaction for the remaining pairs may have been reflective of the types of organizations that participated. While this has been addressed in Section 10.3. with regards to the sample effects on congruence, the culture-outcomes and values-outcomes relationships presented in chapters eight and nine respectively may have been influenced by similar sample effects. The accounting of unique variance in GWS by the Vision, Adhocracy, Bottom-Line Oriented,

and Market preferences indicators may have been diminished as a result of the possibly decreased variability in these indicators. While acquiring a sample of organizations that ideally reflect each of the four pertinent culture/values factors was beyond the means of my study due to time limitations, it would be valuable if future studies were able to validate my study's findings with a more varied sample.

12.4.2. Common Method Bias. Common method bias is an issue in the measurement of organizational variables (Doty & Glick, 1998). The variation between true scores and the gathered scores of each of the variables measured in the current study may have been influenced by factors pertaining to common method bias. For example, the questionnaire may have prompted the better-than-average effect (Alicke & Govorun, 2005) or the self-serving bias (MacDonald & Standing, 2002). Additionally cognitive dissonance (Maertz Jr, Hassan, & Magnusson, 2009) may be influential as a means of common method bias. As participants are being asked to judge their degree of fit with the organization in a manner that places personal and organizational preferences adjacent to each other, it is possible that evidence of fit/misfit for each item is clearly presented to the employee. The cognitive dissonance downplaying poor fit between the employee and the organization, which in its absence may otherwise call into question the reason/s why the employee is working at their organization, could therefore influence the truthfulness of employee responses. As a result, employee preferences and perceived organizational preferences may be indicated as being closer to one another than what is realistically true. These possible sources of bias may therefore have had an influence on the values and culture related findings of the current study.

12.4.3. Values Measure. The use of items from Schwartz and Bardi's (2001) values survey in the current study to form the basis of the four values factors item content may have been a methodological limitation. While the items were argued to be thematically derivative of the four overarching values factors in the rationale and methodology (see chapters six and seven), the items were not created specifically with the four values factors in mind. Consequently this may have influenced the goodness of fit analysis mapping the values indicators on the four overarching values factor, which in turn may have influenced the final models of the four values factors produced in my study. In future studies of the four factor values model, creation of indicators representative of the four factors for the purposes of validation would be advisable.

12.4.4. Type I Error and Analysis Quantity. Despite measures to circumvent Type I errors by reducing the outcome variables to a single indicator, thereby reducing the amount of analyses required, it is possible that the number of analyses conducted in my

study would influence Type I error regardless. While my study has not involved data-driven analyses without theoretical backing, Type I errors admittedly become more likely as a function of analysis quantity (Howell, 2002). As a result Type I errors may be present in my study's results, and would require further validation from future studies to rule out the probability of sample-specific results artefacts.

As stated in the study methodology, a key purpose of the research conducted in this study is to compare different analysis techniques attempting to address the same research goal. Parallel investigations of the results of correlation, HMRA, and MLM analysis further extend the literature by demonstrating the variations in results that may be due to the sophistication of the analysis employed. Therefore the potential concern regarding Type I error may be overshadowing the benefits to clarity and understanding that the study may deliver as a consequence of its multi-method approach to statistical analysis. Further research will provide the basis of examining the prospects of Type I error in the face of the potential gains in the understanding of the areas addressed by multi-method analysis.

12.4.5. Quantitative Data. A final limitation of my study was the reliance on quantitatively derived data. While this area is examined in greater detail within section 10.6.2., checks on whether the culture/values indicators were representative of each organization via qualitative measurement was not available. While this was not feasible for the current study due to the geographic remoteness of particular participating organizations, the gathering of qualitative data to ensure adequate coverage of the dimensions of culture/values measurement would strengthen future studies.

12.5. Study Strengths. In addition to the methodological limitations discussed in the previous section, my study had several strengths.

12.5.1. Online Surveying. Online surveying has been previously regarded as providing equivalent results to that of hardcopy questionnaires as described in the Methodology (see section 7.3.). In addition to answer equivalency, there are several advantages regarding this method of data collection that my study has capitalised on. Firstly, the online survey allowed for data collection that was not influenced by experimenter error in terms of incorrectly recorded data. As the participant responses were automatically added to a database directly from their survey responses, the direct encoding of data by the machine eliminated the prospect of data entry error. Secondly, online surveying was less resource intensive in comparison to hardcopy surveying in terms of paper consumption, and allowed easier retention of participant data without consuming physical space. Lastly, it allowed the questionnaire to provide the survey participants with immediate feedback regarding how their preferences for culture and other measured

variables compared with that of the average participant scores. This was useful to pique participant interest in the questionnaire, as participants could see what their questionnaire responses inferred in terms of their preferences for overarching culture/values factors, and to see how these preferences differed from the rest of the sample. As this process was handled by the machine, it additionally eliminated experimenter time spent on producing individual feedback for the questionnaire. Therefore online surveying was beneficial in several areas during the conduction of my study.

12.5.2. Multi-Level Modelling. Accounting for between-organizational variance in the criterion variable indicated that traditional regression analysis of organizational aspects predicting workplace outcomes may be prone to Type I error. As there were several instances of significant predictors of GWS being regarded as non-significant following the introduction of between-group variance being accounted for, this highlighted a problem area with regression analysis in organizational measurement. Therefore consideration of between-organizational variability in the criterion was important to reduce the prospect of spurious relationships being reported in the current study.

While this source of error was made salient in the current study, it allows for two important considerations for future organizational research. Firstly, while variability in the criterion accountable to between-organizational differences was focused on in my study, other sources of variability can also be considered. Variability attributable to workgroup differences or sector differences is possible to also examine via multi-level modelling (Heck, et al., 2010). Therefore future studies may incorporate additional sources of criterion variability to further reduce the prospect of reporting spurious relationships between organizational predictors and outcome variables. Secondly, it allows for future research to examine the mechanics of this between-organizational variability in influencing workplace outcomes. While the focus of my study was to account for and not explain the source of between-organizational variability in the criterion variable, an understanding of what sources may be influencing these significant differences is a viable aspect of clarification for future research. Therefore the use of multi-level modelling during the analysis was useful in terms of its controlling for spurious relationships between preferences and organizational outcomes, in addition to providing future research prospects to clarify the nature of these sources of variability.

12.5.3. Generalised Workplace Satisfaction. The use of the GWS variable reduced the prospect of Type I error. If Job Satisfaction, Affective and Normative Organizational Commitment, and Turnover Intention were analysed separately during the regression/congruence testing, the number of analyses would have quadrupled. Therefore

by reducing the measured outcomes variables into one generalised criterion variable, a reduction in spurious results may have been more likely.

12.6. Theoretical Implications.

12.6.1. Importance of Perceived Organizational Preferences. As demonstrated in each analysis of values, culture, and their influence on organizational outcomes, OP data for these factors was much more influential on workplace satisfaction in comparison to the IP data. In turn, this was considered a source of the problem associated with the presentation of evidence for congruence for the Vision/Adhocracy and Bottom-Line/Market values/culture pairings. As the perceived organizational preferences coefficients were greater than their individual preferences counterparts, the equivalency in coefficients was lopsided and not a reflection of the congruence expectations expounded by Edwards (1994). More pertinently, it would also appear that in the current study the perceptions held by employees of their organization were very important in influencing their workplace satisfaction, and their perceived fit between their values and the culture of organization less important.

As has been reported previously in the conducted analyses, there was often a gap of approximately 40% in explained variability between the individual preferences models and the perceived organizational preferences models. Therefore the differences between one's preferences and those perceived to be held by the organization may have contributed differently to an employee's sense of workplace satisfaction. One explanation for this prominence of perceived organizational preferences influencing workplace outcomes could be its reinforcing or confirmatory relevance within Schneider's (1987) Attraction Selection Attrition (ASA) framework. The manner in which the organization broadcasted its culture would serve as a point of reference for employees to evaluate not only the degree of concordance with their own values, but the types of ideals the organization (sometimes unsuccessfully) espoused. Previously values preferences have been described as both an end point and a process (Rokeach, 1973), and this presentation of particular values and culture preferences by the employer may have provided employees with an insight of what the organization strived to be. Admittedly this would feed into the congruence aspects of the ASA framework regarding Attrition, wherein an organization's broadcasted culture or values would serve as a point of reference for the employee when deciding whether they are an ill-fit, leading to vacating the job. Additionally it would serve a role in the initial Attraction phase as well, as the broadcasted culture of the organization would serve as a benchmark for congruence prior to approaching the organization for employment. Both of these processes have been confirmed by Cable, Aiman-Smith, Mulvey, and Edwards (2000),

with similar findings supported by Kuhn (2009). Therefore the prominence of organizational preferences as a key indicator of workplace satisfaction may be due to its salience in the repeated assessments and judgements of fit undertaken by employees.

Additionally it was possible that satisfaction in how the organization approaches particular activities could be attained in the absence of these ASA aspects. For example, even if an employee was not considered charitable, they might still respect an organization's efforts at contributing charitable donations. As a consequence of this respect for the organization's action, their degree of satisfaction with regards to their employment may have improved. In a related sense to Schwartz and Bardi's (2001) universal hierarchy of values, it may be possible that certain cultural aspects in isolation of congruence can be importance in influencing workplace satisfaction. The charitable donation example described previously could have been representative of generally acceptable cultural processes regardless of personal preferences. As a result, the possibility of particular broadcasted preferences influencing workplace outcomes is a plausible notion.

A further influence on perceptions of organizational culture preferences having primacy in variance explanation compared to individual preferences could be based on the divide between introspection and observation when judging preferences. As discussed previously with regards to the diverging factor structure of the values inventory, the manner in which individuals perceive themselves and the organization are subject to differing biases (Alicke & Govorun, 2005; MacDonald & Standing, 2002). It may be easier for employees to deduce where an organization stood on issues pertaining to culture, and the kind of influence this had on how they feel about their work, in comparison to an introspective assessment. For example, Apple's cessation of charitable donations and general philanthropic activity upon the arrival of Steve Jobs as CEO was initially a cost cutting measure to float the company back into profitable economic territory. Despite the later successes of various Apple products, this organizational policy and therefore facet of organizational culture was maintained until Tim Cook replaced Steve Jobs as CEO after Job's death (Fisher, 2011). When these uncharitable actions and processes are applied to the organization, it is arguably applied to a more nebulous entity ('the organization'), therefore the prospect of negative appraisal regarding this uncharitable behaviour has a diluted degree of personal application to Apple employees. Alternatively if an Apple employee was personally regarded as uncharitable and mean-spirited, the degree of abstraction between the negative processes and the individual themselves might be lessened, therefore negative regard would be more pointedly applied to the individual demonstrating these behaviours. Due to the differences in consequences for accurate acknowledgement of what an

employee and an organization can represent in terms of these cultural choices, the organizational preferences are more likely to be assessed in a less biased manner due to the distancing from the individual making the judgement. As a result, the added accuracy of assessing organizational cultural preferences may partially explain its greater importance when predicting workplace outcomes.

12.6.2. Holistic Culture vs. Focused Culture. The results of the current study suggested the holistic interpretation of culture may be more valid than the values-centric model of culture, particularly when used as a predictor of individual outcomes. Whether a generalisable model of culture is obtainable is questionable however. Variations and disagreements regarding the indicators composing organizational culture appeared to be a difficulty inherent in a variable so encompassing, evident in the construct's multitude of linkages with other factors of interest within organizational and employee behaviour research. Therefore crystallisation of what was meant by organizational culture, as a means of clarifying the literature on culture to be meaningful in the context of practical applications, was arguably a difficult process to enact. In a sense, it appeared to be tied to the problem of narrowing or widening of the constructs' scope to strike the balance between predictive merit and construct validity.

Focusing on this problem of scope is a key area in defining organizational culture. The manner in which organizational culture may be represented by a limited pool of indicators is pertinent to this discussion. When the scope of organizational culture's indicators was narrowed, the researcher granted their model of organizational culture an improved degree of elegance and practical manageability. Take for example O'Reilly et al.'s (1991) Organizational Culture Profile using values similarities between the employee and organization as a means of testing organizational culture. By reducing organizational culture to a single type of indicator (values congruence), the Organizational Culture Profile demonstrated excellent model parsimony by reducing the amount of investigated factors to that considered most important. However parsimony relies on striking the balance between an elegant subset of important predictors and a sufficient coverage of the criterion's various facets. For an indicator such as culture, which had a litany of indicators in the organizational literature, this was a problematic area when choosing to focus primarily on values congruence. As discussed previously, while the Organizational Culture Profile is refined in its approach to measuring culture, it was difficult to argue that values were the only worthwhile facet of culture to include during measurement when the list of viable predictors is so numerous.

The findings of the current study indicated that perceived practices/processes in the organization representative of organizational culture add significant explanatory variance to workplace satisfaction beyond that provided by values alone. Consequently an interpretation of culture beyond that of values appeared to be more valid as a result. Believing there to be a degree of synonymy between values and culture, as has been addressed in the literature review and discussion previously, measures of culture may therefore be lacking in construct validity and inferences regarding culture should be considered cautiously as a result. Conversely, entertaining the measurement of all presented predictors of culture in the literature is an unrealistic goal and unfeasible in a practical situation. Therefore organizational culture is forked between measurement elegance and measurement completeness, leading to the difficulties in conceptualising culture outlined previously.

One previously attempted way to balance the demands of model parsimony and model completeness is through the development of industry specific questionnaires such as those developed for pharmacists (Clark & Mount, 2006) or the hospitality industry (Tepeci & Bartlett, 2002) represented this goal in culture measurement. However, this creates difficulty in establishing a common framework for assessing culture across industries. Consequently industry specific questionnaires are arguably not an ideal solution to the problem of model completeness versus parsimony.

In the current study I attempted to avoid this fragmentation during measurement of culture and values into organizational specific measures through the use of 'general' measures of culture and values, Schwartz and Bardi's (2001) universal values and Cameron and Quinn's (1999, 2006) CVF. A limitation of this approach to generalised measurement has been pointed out by authors such as Fitzpatrick (2007) and Kristof (1996), as a specific indicator/factor framework was imposed during measurement. Sense of what was being discussed during measurement was framed from the perspective of what the researcher/s and what they believed to be important to measure, prospectively limiting the scope of investigation for these constructs. While this 'classification approach' to culture and values measurement imposed a fixed scope, the alternative of using qualitative measurement has a reciprocal problem of limiting the generalisability of results (Lim, 1995). Qualitatively derived information regarding the organization's values (and culture) are excellent at pinpointing the areas of trouble for the organization of focus, but understandably lacks generalisability beyond organizations involved in parallel circumstances. Therefore the measurement of culture was again conflicted between two goals (domain generality and

domain specificity), in addition to the problem of parsimony versus construct validity described previously.

As the goal of this section was to expand upon the problems that surrounded the definition of culture and the manner in which these areas may be addressed, it should be clear that a balance between several areas was necessary. Previous literature has generally recommended a balance between these competing goals when trying to address them, and I have to echo their sentiments. The balance between domain specificity and domain generality could be examined by the combination of qualitative probing prior to quantitative examination as described in my study limitations prior (see Section 10.4.5.). Qualitative probing would allow the researcher to estimate the degree of the organization's culture that conforms to generally predictable aspects (such as the four factors of Cameron and Quinn's [1999; 2006] CVF), and aspects that are specific to contextual influences affecting the organization. The organizational culture influence on an organization's response to merging with another organization would be more readily measured in circumstances where this was salient, as a possible example of this kind of domain specificity. Therefore mixed-methods research (Sommer Harrits, 2011) appears to be a salient consideration during organizational measurement.

With these details in mind, a balance between generalisability (necessary for the results to be externally valid across various vocational applications) and specificity (necessary for the results to be externally valid within specified vocational applications) was prospectively attainable through the combination of qualitative and quantitative methodology. Figure 21 represented these continua that were advisable to be considered when assessing culture, with the central point representing an ideal balance. However, as is the case in the current study, practical limitations in addressing these ideals of culture measurement may not necessarily be possible.

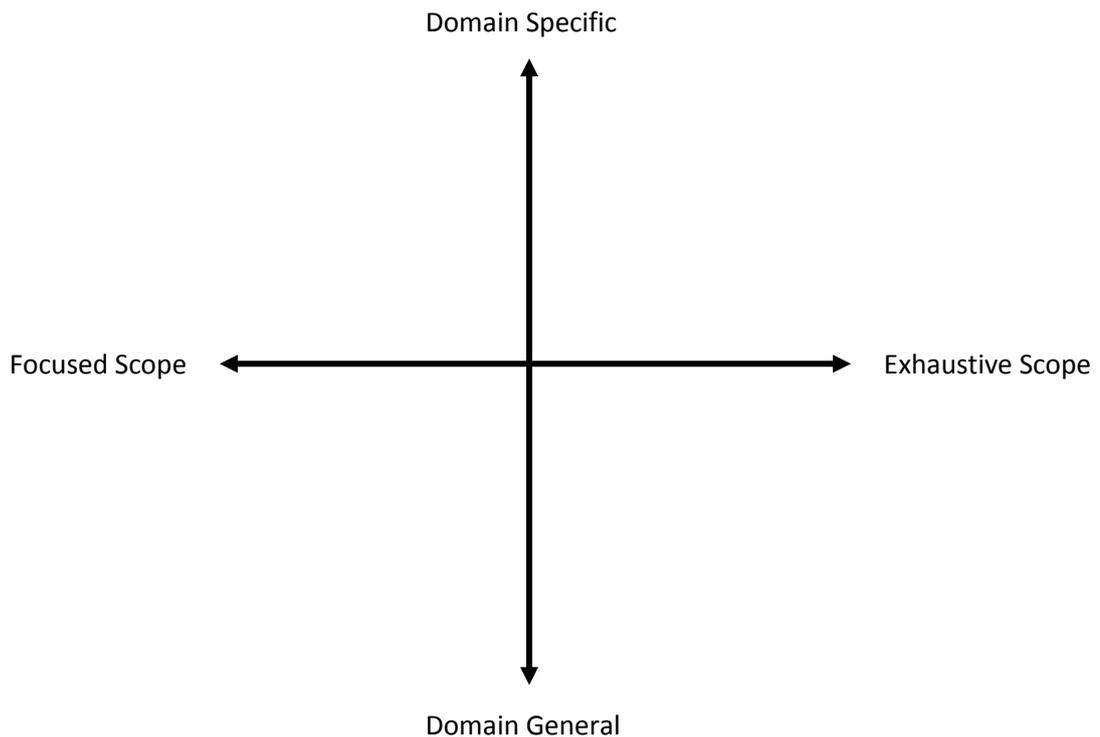


Figure 21. Continua for consideration during culture assessment.

12.6.3. Mixed Methods Research. In light of the discussion of balance between generalisability and specificity, mixed methods research is a pertinent consideration for organizational measurement. Attempting to distil broad indicators of culture and values, as my study has retrospectively concluded, can lead to the marginalisation of details that are specific influences at each organization. While this argument may seem self-defeating in light of the current study's attempt to examine general trends in culture/values preferences and their influence on organizational outcomes, awareness of the sample characteristics these findings have been derived from has been a recurrent aspect of the previous sectional discussions. Pragmatist theory has previously discussed that the belief in blanket examples being sufficient in explaining culture was largely problematic (Stuhr, 2003). Blanket examples were considered likely to be open to counterexamples that highlighted their inherent flaws, thus rendering them ineffective (Stuhr). Therefore the indicator-model configurations of the current study may be theoretically justifiable for the types of organizations sampled, however translation of the models to other organizational types may benefit from a-priori qualitative investigation. In doing so, this would theoretically justify that the elements represented in the models established in my study do not marginalise organizational factors outside of the scope of this investigation. Quantitative data would bolster these judgements of model transferability. Therefore mixed-methods

research may provide a strengthened theoretical backing for the models and preference-outcomes links presented in my study.

Furthermore, it is important to acknowledge that culture is often a unique constellation of characteristics, and due to this unique property culture is a key separator of successful organizations and less successful organizations. For example, Ogbonna and Harris (2002) discussed culture in terms of the way in which it gives certain organizations advantages over their competitors in the field, due to the difficulty required in imitating their culture as a whole. The uniqueness of culture in organizations further coincided with Barney's (1997; as cited in Dixon & Day, 2010) resources-based perspective on how certain organizations became successful. Barney employed an acronym of VRIO to denote that successful organizations had resources which were Valuable, Rare, Inimitable, and exploitable by the Organization, of which culture was a prominent aspect. Additionally Gerhart (2009) presented findings that suggested that organizational culture variations within nations varied in part due to the homogeneity of a nation's culture, indicating cross-cultural differences altered the probability of organizational cultural variations in turn. Therefore, organizational culture has unique variations from workplace to workplace, vocation to vocation, and nation to nation. Mixed-methods research would therefore be theoretically valuable in future examinations of culture that apply the model findings of the current study, as a means of avoiding the undermining of organizational-specific facets that are key in their functioning.

12.7. Practical Implications.

12.7.1. Importance of Perceived Organizational Preferences. The importance of the OP data in each of the previously presented analyses indicates that OP may have practical implications. Attention directed towards the message promoted by the organization as being representative of their culture, values, objectives, and goals may be highly influential in employee satisfaction within the workplace. As previously demonstrated, a difference of approximately 40% variability between the explained workplace satisfaction by the OP data in comparison to the IP data consolidates this point. I recommend that organizations pay close attention to the message regarding the organizations' culture/value preferences they promote, as the manner in which employees view their employer may be consequential in their degree of satisfaction in the workplace. This recommendation should not be seen as a suggestion to endorse a subset of cultural/values preferences that have indicated positive relationships with satisfaction *in this study*, as a means of improving employee satisfaction. As covered in the methodological reviews of previous discussion sections, the culture preferences of the

current study that were positively correlated with workplace satisfaction (such as Hierarchy culture) may be due to the characteristics of the organizations involved in my study. This point is developed further in the discussion of postmodernism's practical implications regarding my study outcomes.

In summary, the message presented to employees regarding an organization's preferences for culture or values appears to have a highly important relationship with the employee's degree of satisfaction at work. Consequently, it is advisable that organizations maintain vigilance in monitoring and reinforcing a perception of the organization that is likely to influence employee satisfaction in a positive manner. Tying this broad idea to the example of Foxconn presented in the study's introductory chapter, one may imagine that the manner in which the organisation presents itself to its employees has influenced the way in which their employees are responding. The organisational perceptions by employees, who allegedly described their employer as very hard driving and bearing limited prospects for advancement (The Economist, 2010), may have played an influential role in the employee difficulties the organisation has faced. Consequently, the possibility of an improvement in employee wellbeing by improving employee perceptions of the organisation may be a means of addressing this issue. While organisational cultural change and its associated considerations are beyond the scope of this study, the strong relationships between perceptions of the organisation and employee wellbeing presented in the study reinforce the importance of perceptions. In summary, practitioners should pay heed to the manner in which the organisation is perceived by employees, as the study results suggest that perceptions are strongly related to employee wellbeing. The decision regarding the alignment of this message is further developed in the following section.

12.7.2. Mixed Methods Research. When applying mixed-methods research (Sommer Harrits, 2011) to the practitioner measuring culture in an applied setting (for example, in the context of diagnosing culture prior to organizational change), the decisions of scope and domain are relevant. As previously mentioned, a practitioner entering the workplace to assess culture from a domain general perspective may be blinded to the nuances of a unique constellation of cultural characteristics. As Kristof (1996) and Fitzpatrick (2007) have recommended previously, if resources allow for it, then examination of the culture measurement areas from a qualitative stance prior to quantitative measurement can circumvent this potential problem. Alternatively the consideration of scope presents a diverging set of practical problems. A narrow scope befits the practitioner with the ability to focus on a specific element within the organization, for example values, as a means of diagnosing and then altering for the benefit of organizational functioning. In

doing they would be likely to reduce the length of the assessment materials, an outcome that would be practically advantageous in terms of employee completion rates. The cost to a focused approach mimicked the problem discussed previously with domain generality in approaching culture measurement. Key contributors to the effect of culture on organizational outcomes may be missed if they fall outside of the variable/s of interest. To reiterate the example found in the current study, if organizational processes or practices are significant influencers of organizational outcomes such as Job Satisfaction, then focusing solely on values will blind the researcher to this effect. Furthermore the downgrading of some values indicators to non-significance in the presence of these cultural processes would theoretically produce spurious relationships from a values-centric perspective. Therefore mixed-methods research may allow some middle ground between these problems of scope and domain, if a combination of qualitative and quantitative methods can be applied in a practical situation.

By examining culture in a way that has acceptable scope to account for the unique and generalisable aspects of culture at each organization, thereby holistically examining an organization's culture, a more accurate representation of the organization's culture can be achieved. In doing so, identification of the aspects of culture that *can* be extended to other organizations more readily than other, more circumstantially driven aspects, would be beneficial in terms of goals for organizational change. Additionally, identification of cultural factors that are beneficial to the organization due to the manner in which they are perceived positively by employees is similarly important in this regard. In summary, the practical applications of mixed-methods research are beneficial in teasing out the specific and generalised aspects of culture measurement. Should resources and practicality permit, mixed-methods research would address several of the uncertainties regarding the transferability of the models and relationships with organizational outcomes highlighted in my study.

12.8. Future Study Directions.

There are several key future study directions that can be proposed based on the results and associated discussion of my study. Regarding the culture validation of the first objective, it would be valuable if a future study could attempt to confirm the factor structure of the OCAI (Cameron & Quinn, 1999, 2006) due to the indicator reconfiguration presented in my study. This would allow insight as to whether the reconfiguration was sample specific or indicative of a general need for model reconfiguration of the OCAI.

Regarding the second objective's examination of values, it would be valuable if the four factor values model of Finegan (2000) could be further refined. Due to the exclusion

and remapping of several indicators of the model during my study, it may be valuable to build factor indicators from the outset instead of co-opting existing indicators from another measure. This may produce a values model with better fit indices than the current model, which in turn may clarify the values/culture congruence testing conducted in the current study due to the improved model validity.

Provided that a large sample size was available, examination at the indicator level of whether there are values-culture relationships in the binary patterns hypothesised in the current study may be beneficial in indicating the overlap between Finegan's (2000) and Cameron and Quinn's (1999, 2006) models. Due to the demonstrated congruence influence on workplace outcomes some of the factor pairings from both models demonstrated, further clarification regarding the interaction between the models would be valuable. Secondly, future researchers who have access to organizations more representative of the Adhocracy / Market culture stereotypes may wish to test the Vision/Adhocracy and Bottom-Line Oriented / Market congruence effects on workplace satisfaction. In doing so further evidence for the link between an individual's values and the organization's culture being influential on workplace satisfaction would be provided.

As the current study had a cross-sectional design, the directionality of the relationships between values/culture and workplace satisfaction were uncertain. It would be of additional value to future examinations of culture/values and their influence on workplace outcomes to conduct longitudinal measurement. This would provide additional details regarding the directionality of the factors in the OCAI (Cameron & Quinn, 1999, 2006) and the four factor values model (Finegan, 2000).

12.9. Conclusion. Values and culture are important factors in the consideration of workplace satisfaction. I have demonstrated several key findings that have either clarified or expanded upon previous research regarding these concepts. Cameron and Quinn's (1999, 2006) OCAI was shown to have validity as a tool for culture measurement. There was similar broad support for the existence of a four factor values model that was considered thematically linked to the culture factors of the OCAI. The values model demonstrated interesting divergences in its indicator structure however, hinting at the importance of the difference in perspective used during values judgement pertaining to the individual preferences and those of the organization. Congruence between employee values preferences, and what employees perceived as the organization's culture preferences, demonstrated importance evidence for the ASA model (Schneider, 1987) outside of the common context of personality congruence. The congruence findings demonstrated that congruence between values-culture pairings was influential on

workplace satisfaction as anticipated, which provided further evidence for the importance of considering non-linear/linear congruence components via polynomial regression (Edwards, 1994). My study demonstrated that a values-centric interpretation of culture was likely to understate the influence of culture on workplace satisfaction, due to the significant addition in explained variance by the process/practices aspects of culture. While this confirmed culture interpretations by previous research such as that by Hofstede (1998), this finding further weakened the problematic footing of values-centric culture measures being used for culture measurement or basic values measurement depending on the perspective of the given researcher. Lastly, perceptions of organizational preferences for values and culture were much greater in their importance during the prediction of workplace satisfaction in all analyses conducted in my study in comparison to individual preferences. This was an important finding that further reinforced the necessity for organizations to monitor and adjust their presentation of culture/values within the workplace, such that employees perceive the organization as being representative of shared/favourable culture preferences. In doing so, improvements in workplace satisfaction may be more likely.

References

- Abbott, G. N., White, F. A., & Charles, M. A. (2005). Linking values and organizational commitment: A correlational and experimental investigation in two organizations. *Journal of Occupational and Organizational Psychology, 78*, 531-551. doi: 10.1348/096317905X26174
- Alicke, M. D., & Govorun, O. (2005). The better-than-average effect. In M. D. Alicke, D. A. Dunning & J. I. Krueger (Eds.), *The self in social judgment*. New York, NY: Psychology Press.
- Allen, P., & Bennet, K. (2010). *PASW statistics by SPSS: A practical guide, version 18.0*. South Melbourne, Victoria, Australia: Cengage Learning.
- Appelbaum, S., Bartolomucci, N., Beaumier, E., Boulanger, J., Corrigan, R., Dore, I., . . . Serroni, C. (2004). Organizational citizenship behavior: A case study of culture, leadership and trust. *Management Decision, 42*, 13-40. doi: 10.1108/00251740410504412
- Balthazard, P. A., Cooke, R. A., & Potter, R. E. (2006). Dysfunctional culture, dysfunctional organization: Capturing the behavioral norms that form organizational culture and drive performance. *Journal of Managerial Psychology, 21*, 709-732. doi: 10.1108/02683940610713253
- Barboza, D. (2009, July 26th). iPhone maker in China is under fire after a suicide, *The New York Times*. Retrieved from <http://www.nytimes.com/2009/07/27/technology/companies/27apple.html>
- BBC News. (2010). Ninth worker death at Taiwan iPhone firm Foxconn. *BBC News: Asia-Pacific*. Retrieved from <http://www.bbc.co.uk/news/10137101>
- Bellou, V. (2010). Organizational culture as a predictor of job satisfaction: The role of gender and age. *Career Development International, 15*, 4-19. doi: 10.1108/13620431011020862
- Berson, Y., Oreg, S., & Dvir, T. (2008). CEO values, organizational culture and firm outcomes. *Journal of Organizational Behavior, 29*, 615-633. doi: 10.1002/job.499
- Beugelsdijk, S., Koen, C. I., & Noorderhaven, N. G. (2006). Organizational culture and relationship skills. *Organization Studies, 27*, 833-854. doi: 10.1177/0170840606064099 27
- Beugelsdijk, S., Koen, C. I., & Noorderhaven, N. G. (2009). A dyadic approach to the impact of differences in organizational culture on relationship performance. *Industrial Marketing Management, 38*, 312-323. doi: 10.1016/j.indmarman.2008.02.006
- Block, L. (2003). The leadership-culture connection: An exploratory investigation. *Leadership and Organization Development Journal, 24*, 318-334. doi: <http://dx.doi.org/10.1108/01437730310494293>
- Bocchino, C. C., Hartman, B. W., & Foley, P. F. (2003). The relationship between person-organization congruence, perceived violations of the psychological contract, and occupational stress symptoms. *Consulting Psychology Journal: Practice and Research, 55*, 203-214. doi: 10.1037/1061-4087.55.4.203
- Boone, C., van Olffen, W., & Roijackers, N. (2004). Selection on the road to a career: Evidence of personality sorting in educational choice. *Journal of Career Development, 31*, 61-78.
- Brown, F., & Dodd, N. G. (1998). Utilizing organizational culture gap analysis to determine human resource development needs. *Leadership & Organization Development Journal, 19*, 374-385. doi: <http://dx.doi.org/10.1108/01437739810242531>
- Buchanan, T., & Smith, J. L. (1999). Using the Internet for psychological research: Personality testing on the World Wide Web. *British Journal of Psychology, 90*, 125-144.

- Bunch, K. J. (2007). Training failure as a consequence of organizational culture. *Human Resource Development Review, 6*, 142-163. doi: 10.1177/1534484307299273
- Burke, R. J. (2001). Workaholism in organizations: The role of organizational values. *Personnel Review, 30*, 637-645. doi: 10.1108/13620430210431299
- Burke, R. J. (2002). Do workaholics prefer demanding, aggressive, and results-oriented organizational cultures? *The Career Development International, 7*, 211-217. doi: 10.1108/13620430210431299
- Burke, R. J., Oberklaid, F., & Burgess, Z. (2003). Organizational values, work experiences, and satisfactions among Australian psychologists. *International Journal of Organizational Analysis, 11*, 123-135.
- Burke, R. J., Oberklaid, F., & Burgess, Z. (2005). Organizational values, job experiences and satisfactions among female and male psychologists. *Community, Work & Family, 8*, 53-68. doi: 10.1080/1366880052000324002
- Cable, D. M., Aiman-Smith, L., Mulvey, P. W., & Edwards, J. R. (2000). The sources and accuracy of job applicants' beliefs about organizational culture. *The Academy of Management Journal, 43*, 1076-1085.
- Cameron, K. S., & Quinn, R. E. (1999). *Diagnosing and changing organizational culture: Based on the Competing Values Framework*. Reading, MA: Addison-Wesley.
- Cameron, K. S., & Quinn, R. E. (2006). *Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework* (Revised Ed.). San Francisco, CA: Jossey-Bass.
- Campbell, C. R. (2004). A longitudinal study of one organization's culture: Do values endure? *Mid-American Journal of Business, 19*, 41-51.
- Cha, S. E., & Edmondson, A. C. (2006). When values backfire: Leadership, attribution, and disenchantment in a values-driven organization. *The Leadership Quarterly, 17*, 57-78. doi: 10.1016/j.leaqua.2005.10.006
- Clark, B. E., & Mount, J. K. (2006). Pharmacy Service Orientation: A measure of organizational culture in pharmacy practice sites. *Research in Social and Administrative Pharmacy, 2*, 110-128. doi: 10.1016/j.sapharm.2005.12.003
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*, 155-159.
- Connelly, C. E., & Kelloway, E. (2003). Predictors of employees' perceptions of knowledge sharing cultures. *Leadership & Organization Development Journal, 24*, 294-301. doi: <http://dx.doi.org/10.1108/01437730310485815>
- Cooke, R. A., & Lafferty, J. C. (1987). *Organizational Culture Inventory (Form III)*. Plymouth, MI: Human Synergistics.
- Cooper-Thomas, H. D., Van Vianen, A., & Anderson, N. (2004). Changes in person-organization fit: The impact of socialization tactics on perceived and actual P-O fit. *European Journal of Work and Organizational Psychology, 13*, 52-78. doi: 10.1080/13594320344000246
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297-334.
- Davidov, E., & Depner, F. (2011). Testing for measurement equivalence of human values across online and paper-and-pencil surveys. *Quality & Quantity, 45*, 375-390. doi: 10.1007/s11135-009-9297-9
- De Cooman, R., De Gieter, S., Pepermans, R., Hermans, S., Du Bois, C., Caers, R., & Jegers, M. (2009). Person-organization fit: Testing socialization and attraction-selection-attrition hypotheses. *Journal of Vocational Behavior, 74*, 102-107. doi: 10.1016/j.jvb.2008.10.010
- de Hilal, A. V. G. (2006). Brazilian national culture, organizational culture and cultural agreement: Findings from a multinational company. *International Journal of Cross Cultural Management, 6*, 139-167. doi: 10.1177/1470595806066325

- Dixon, S., & Day, M. (2010). The rise and fall of Yukos: A case study of success and failure in an unstable institutional environment. *Journal of Change Management*, *10*, 275 - 292. doi: 10.1080/14697017.2010.493293
- Doty, D. H., & Glick, W. H. (1998). Common methods bias: Does common methods variance really bias results? *Organizational Research Methods*, *1*, 374-406. doi: 10.1177/109442819814002
- Dumay, X. (2009). Origins and consequences of schools' organizational culture for student achievement. *Educational Administration Quarterly*, *45*, 523-555. doi: 10.1177/0013161X09335873
- Edwards, J. R. (1993). Problems with the use of profile similarity indices in the study of congruence in organizational research. *Personnel Psychology*, *46*, 641-665.
- Edwards, J. R. (1994). The study of congruence in organizational behavior research: Critique and a proposed alternative. *Organizational Behavior and Human Decision Processes*, *58*, 51-100.
- Edwards, J. R. (1996). An examination of competing versions of the person-environment fit approach to stress. *Academy of Management Journal*, *39*, 292.
- Edwards, J. R., & Cable, D. M. (2009). The value of value congruence. *Journal of Applied Psychology*, *94*, 654-677. doi: 10.1037/a0014891
- Edwards, J. R., & Cooper, C. L. (1990). The person-environment fit approach to stress: Recurring problems and some suggested solutions. *Journal of Organizational Behavior*, *11*, 293-307.
- Fields, D. L. (2002). *Taking the measure of work: A guide to validated scales for organizational research and diagnosis*. Thousand Oaks, CA: Sage Publications.
- Finegan, J. E. (2000). The impact of person and organizational values on organizational commitment. *Journal of Occupational and Organizational Psychology*, *73*, 149-169.
- Fisher, K. (2011). The post-Jobs era: Tim Cook brings philanthropy back to Apple. Retrieved 15 October, 2011, from <http://arst.ch/qtj>
- Fitzpatrick, R. L. (2007). A literature review exploring values alignment as a proactive approach to conflict management. *International Journal of Conflict Management*, *18*, 280-305. doi: 10.1108/10444060710826007
- Gardner, W. L., Reithel, B. J., Foley, R. T., Coglisier, C. C., & Walumbwa, F. O. (2009). Attraction to organizational culture profiles: Effects of realistic recruitment and vertical and horizontal individualism-collectivism. *Management Communication Quarterly*, *22*, 437-472. doi: 10.1177/0893318908327006
- Gerhart, B. (2009). How much does national culture constrain organizational culture? *Management and Organization Review*, *5*, 241-259. doi: 10.1111/j.1740-8784.2008.00117.x
- Giberson, T. R., Resick, C. J., Dickson, M. W., Mitchelson, J. K., Randall, K. R., & Clark, M. A. (2009). Leadership and organizational culture: Linking CEO characteristics to cultural values. *Journal of Business and Psychology*, *24*, 123-137. doi: 10.1007/s10869-009-9109-1
- Gillett, E., & Stenfert-Kroese, B. (2003). Investigating organizational culture: A comparison of a 'high'- and a 'low'-performing residential unit for people with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, *16*, 279-284.
- Google (2010). The Google culture. Retrieved October 6th, 2010, from <http://www.google.com/corporate/culture.html>
- Google (2011). More Google products. Retrieved October 15, 2011, from <http://www.google.com.au/intl/en/options/>
- Gregory, B. T., Harris, S. G., Armenakis, A. A., & Shook, C. L. (2009). Organizational culture and effectiveness: A study of values, attitudes, and organizational outcomes. *Journal of Business Research*, *62*, 673-679. doi: 10.1016/j.jbusres.2008.05.021

- Groseschl, S., & Doherty, L. (2000). Conceptualising culture. *Cross Cultural Management*, 7, 12-17.
- Hartmann, C. W., Meterko, M., Rosen, A. K., Zhao, S., Shokeen, P., Singer, S., & Gaba, D. M. (2009). Relationship of hospital organizational culture to patient safety climate in the Veterans Health Administration. *Medical Care Research and Review*, 66, 320-338. doi: 10.1177/1077558709331812
- Heck, R. H., Thomas, S. L., & Tabata, L. N. (2010). *Multilevel and longitudinal modeling with IBM SPSS*. New York, NY: Routledge.
- Hoffman, B. J., & Woehr, D. J. (2006). A quantitative review of the relationship between person–organization fit and behavioral outcomes. *Journal of Vocational Behavior*, 68, 389-399.
- Hofstede, G. (1998). Attitudes, values and organizational culture: Disentangling the concepts. *Organization Studies*, 19, 477-493.
- Hofstede, G., Neuijen, B., Ohayv, D. D., & Sanders, G. (1990). Measuring organizational cultures: A qualitative and quantitative study across twenty cases. *Administrative Science Quarterly*, 35, 286-316.
- Holland, J. L. (1985). *Making vocational choices: A theory of careers*. Englewood Cliffs, NJ: Prentice Hall.
- Howell, D. C. (2002). *Statistical methods for psychology* (5th ed.). Pacific Grove, CA: Duxbury.
- Irving, P. G., Coleman, D. F., & Cooper, C. L. (1997). Further assessments of a three-component model of occupational commitment: Generalizability and differences across occupations. *Journal of Applied Psychology*, 82, 444-452.
- Jandeska, K. E., & Kraimer, M. L. (2005). Women's perceptions of organizational culture, work attitudes, and role-modeling behaviors. *Journal of Managerial Issues*, 17, 461-478.
- Jaros, S. J. (1997). An assessment of Meyer and Allen's (1991) three-component model of organizational commitment and turnover intentions. *Journal of Vocational Behavior*, 51, 319-337.
- Jaskyte, K., & Dressler, W. W. (2004). Studying culture as an integral aggregate variable: Organizational culture and innovation in a group of nonprofit organizations. *Field Methods*, 16, 265-284. doi: 10.1177/1525822X03262281
- Jaskyte, K., & Dressler, W. W. (2005). Organizational culture and innovation in nonprofit human service organizations. *Administration in Social Work*, 29, 23-41.
- Johnson, R. E., & Jackson, E. M. (2009). Appeal of organizational values is in the eye of the beholder: The moderating role of employee identity. *Journal of Occupational and Organizational Psychology*, 82, 915-933. doi: 10.1348/096317908X373914
- Jones, R. A., Jimmieson, N. L., & Griffiths, A. (2005). The impact of organizational culture and reshaping capabilities on change implementation success: The mediating role of readiness for change. *Journal of Management Studies*, 42, 361-386. doi: 0022-2380
- Jung, T., Scott, T., Davies, H. T. O., Bower, P., Whalley, D., McNally, R., & Mannion, R. (2009). Instruments for exploring organizational culture: A review of the literature. *Public Administration Review*, 69, 1087-1096.
- Kim, B. 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, 612-619. doi: 10.1016/j.ijhm.2009.04.001
- Kline, R. B. (2005). *Principles and practice of structural equation modeling* (2nd ed.). New York: Guildford Press.
- Kofodimos, J. (1995). *Balancing act*. San Francisco, CA: Jossey-Bass.

- Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individual's fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology, 58*, 281-342.
- Kristof, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology, 49*, 1-49.
- Kuhn, K. M. (2009). Compensation as a signal of organizational culture: The effects of advertising individual or collective incentives. *The International Journal of Human Resource Management, 20*, 1634-1648. doi: 10.1080/09585190902985293
- Kwan, P., & Walker, A. (2004). Validating the competing values model as a representation of organizational culture through inter-institutional comparisons. *Organizational Analysis, 12*, 21.
- Lamond, D. (2003). The value of Quinn's competing values model in an Australian context. *Journal of Managerial Psychology, 18*, 46-59.
- Lankau, M. J., Ward, A., Amason, A., & Ng, T. (2007). Examining the impact of organizational value dissimilarity in top management teams. *Journal of Managerial Issues, 19*, 11-34.
- Lansialmi, H., Peiro, J. M., & Kivimaki, M. (2000). Collective stress and coping in the context of organizational culture. *European Journal of Work and Organizational Psychology, 9*, 527-559. doi: 10.1080/13594320050203120
- Lee, S. K. J., & Yu, K. (2004). Corporate culture and organizational performance. *Journal of Managerial Psychology, 19*, 340-359. doi: 10.1108/02683940410537927
- Leonard, K. M. (2008). A cross-cultural investigation of temporal orientation in work organizations: A differentiation matching approach. *International Journal of Intercultural Relations, 32*, 479-492. doi: 10.1016/j.ijintrel.2008.04.007
- Lewis, D. (1996). The organizational culture saga--From OD to TQM: A critical review of the literature. Part 1--Concepts and early trends. *Leadership & Organization Development Journal, 17*, 12-19. doi: <http://dx.doi.org/10.1108/01437739610105995>
- Li, L., & Roloff, M. (2007). Organizational culture and compensation systems: An examination of job applicants' attraction to organizations. *International Journal of Organizational Analysis, 15*, 210-230. doi: 10.1108/19348830710880910
- Li, W., Wang, Y., Taylor, P., Shi, K., & He, D. (2008). The influence of organizational culture on work-related personality requirement ratings: A multilevel analysis. *International Journal of Selection and Assessment, 16*, 366-384.
- Lim, B. (1995). Examining the organizational culture and organizational performance link. *Leadership & Organization Development Journal, 16*, 16-21. doi: 10.1108/01437739510088491
- Lok, P., & Crawford, J. (1999). The relationship between commitment and organizational culture, subculture, leadership style and job satisfaction in organizational change and development. *Leadership and Organization Development Journal, 20*, 365-373. doi: 10.1108/01437739910302524
- Lok, P., & Crawford, J. (2001). Antecedents of organizational commitment and the mediating role of job satisfaction. *Journal of Managerial Psychology, 16*, 594-613.
- Lyons, S. T., Duxbury, L. E., & Higgins, C. A. (2006). A comparison of the values and commitment of the private sector, public sector, and parapublic sector employees. *Public Administration Review, 66*, 605-618.
- MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods, 1*, 130-149.
- MacDonald, D. J., & Standing, L. G. (2002). Does self-serving bias cancel the Barnum effect. *Social behavior and personality, 30*, 625-630.

- Maertz, C. P., Hassan, A., & Magnusson, P. (2009). When learning is not enough: A process model of expatriate adjustment as cultural cognitive dissonance reduction. *Organizational Behavior and Human Decision Processes*, *108*, 66-78. doi: 10.1016/j.obhdp.2008.05.003
- Martin, J., & Meyerson, D. (1988). Organizational cultures and the denial, channeling and acknowledgement of ambiguity. In L. R. Pondy, R. J. Boland & H. Thomas (Eds.), *Managing ambiguity and change*. Chichester, England: John Wiley and Sons.
- Maslow, A. (1954). *Motivation and personality*. New York: Harper.
- Mathew, J., & Ogbonna, E. (2009). Organisational culture and commitment: A study of an Indian software organisation. *The International Journal of Human Resource Management*, *20*, 654-675. doi: 10.1080/09585190802707433
- Mavondo, F., & Farrell, M. (2003). Cultural orientation: Its relationship with market orientation, innovation and organisational performance. *Management Decision*, *41*, 241-249. doi: 10.1108/00251740310468054
- McDonald, P., & Gandz, J. (1991). Identification of values relevant to business research. *Human Resource Management*, *30*, 217-236.
- McDonalds (2011). Careers: McDonalds Australia. Retrieved October 10, 2011, from <http://mcdonalds.com.au/#/careers>
- Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology*, *78*, 538-551.
- Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, *61*, 20-52.
- Moore, M. (2010, May 16th). What has triggered the suicide cluster at Foxconn?, *The Telegraph*. Retrieved from <http://blogs.telegraph.co.uk/news/malcolmmoore/100039883/what-has-triggered-the-suicide-cluster-at-foxconn/>
- Mora, T., & Ferrer-i-Carbonell, A. (2009). The job satisfaction gender gap among young recent university graduates: Evidence from Catalonia. *Journal of Socio-Economics*, *38*, 581-589. doi: 10.1016/j.socec.2009.02.003
- Muldrow, T. W., Buckley, T., & Schay, B. W. (2002). Creating high-performance organizations in the public sector. *Human Resource Management*, *41*, 341-354. doi: 10.1002/hrm.10045
- Muratbekova-Touron, M. (2005). Permanence and change: Case study of changes in organizational culture at a multinational company. *Journal of Change Management*, *5*, 207-219. doi: 10.1080/14697010500133440
- Naor, M., Goldstein, S. M., Linderman, K. W., & Schroeder, R. G. (2008). The role of culture as driver of quality management and performance: Infrastructure versus core quality practices. *Decision Sciences*, *39*, 671-702.
- Necker, L. A. (1832). Observations on some remarkable optical phaenomena seen in Switzerland; and on an optical phaenomenon which occurs on viewing a figure of a crystal or geometrical solid. *London and Edinburgh Philosophical Magazine and Journal of Science*, *1*, 329-337.
- Nelson, R. E., & Gopalan, S. (2003). Do organizational cultures replicate national cultures? Isomorphism, rejection and reciprocal opposition in the corporate values of three countries. *Organization Studies*, *24*, 1115-1151. doi: 10.1177/0170840603024700624
- Ngo, H. Y., & Loi, R. (2008). Human resource flexibility, organizational culture and firm performance: An investigation of multinational firms in Hong Kong. *The International Journal of Human Resource Management*, *19*, 1654-1666. doi: 10.1080/09585190802295082

- O'Reilly, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal, 34*, 487-516.
- Ogbonna, E., & Harris, L. C. (2002). Organizational culture: A ten year, two-phase study of change in the UK food retailing sector. *Journal of Management Studies, 39*, 673-706. doi: 10.1111/1467-6486.00004
- Ogbonna, E., & Wilkinson, B. (2003). The false promise of organizational culture change: A case study of middle managers in grocery retailing. *Journal of Management Studies, 40*, 1151-1178. doi: 10.1111/1467-6486.00375
- Ostroff, C., & Rothausen, T. J. (1997). The moderating effect of tenure in person-environment fit: A field study in educational organizations. *Journal of Occupational and Organizational Psychology, 70*, 173-188.
- Ostroff, C., Shin, Y., & Kinicki, A. J. (2005). Multiple perspectives of congruence: relationships between value congruence and employee attitudes. *Journal of Organizational Behavior, 26*, 591-623. doi: 10.1002/job.333
- Owen, C. (2009). Instructor beliefs and their mediation of instructor strategies. *Journal of Workplace Learning, 21*, 477-495. doi: 10.1108/13665620910976757
- Parkes, L. P., Bochner, S., & Schneider, S. K. (2001). Person-organisation fit across cultures: An empirical investigation of individualism and collectivism. *Applied Psychology: An International Review, 50*, 81-108. doi: 10.1111/1464-0597.00049
- Pepper, S. C. (1942). *World hypotheses: A study in evidence*. Berkeley, CA: University of California Press.
- Ployhart, R. E., Weekley, J. A., & Baughman, K. (2006). The structure and function of human capital emergence: A multilevel examination of the Attraction-Selection-Attrition model. *Academy of Management Journal, 49*, 661-677.
- Quinn, R. E., & Spreitzer, G. M. (1991). The psychometrics of the competing values culture instrument and an analysis of the impact of organizational culture on quality of life. In R. W. Woodman & W. A. Pasmore (Eds.), *Research in organizational change and development*, (Vol. 5, pp. 155-142). Greenwich, CT: JAI Press.
- Randel, A. E., & Earley, P. C. (2009). Organizational culture and similarity among team members' salience of multiple diversity characteristics. *Journal of Applied Social Psychology, 39*, 804-833.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Rosete, D. (2006). The impact of organisational values and performance management congruency on satisfaction and commitment. *Asia Pacific Journal of Human Resources, 44*, 7-24.
- Sarris, A., & Kirby, N. (2005). Antarctica: A study of person – culture fit. *Australian Journal of Psychology, 57*, 161 - 169.
- Sathe, V. (1983). Implications of corporate culture: A manager's guide to action. *Organizational Dynamics, 12*, 5-23. doi: 10.1016/0090-2616(83)90030-x
- Schaubroeck, J., Ganster, D. C., & Jones, J. R. (1998). Organization and occupation influences in the Attraction-Selection-Attrition process. *Journal of Applied Psychology, 83*, 869-891.
- Schein, E. H. (1990). Organizational culture. *American Psychologist, 45*, 105-119.
- Schein, E. H. (1993). On dialogue, culture, and organizational learning. *Organizational Dynamics, 22*, 40-51. doi: 10.1016/0090-2616(93)90052-3
- Schein, E. H. (1996). Culture: The missing concept in organization studies. *Administrative Science Quarterly, 41*, 229-240.
- Schneider, B. (1987). The people make the place. *Personnel Psychology, 40*, 437-453.
- Schneider, B., Goldstein, H. W., & Smith, D. B. (1995). The ASA framework: An update. *Personnel Psychology, 48*, 747-773.

- Schneider, B., Smith, D. B., Taylor, S., & Fleenor, J. (1998). Personality and organizations: A test of the homogeneity of personality hypothesis. *Journal of Applied Psychology, 83*, 462-470.
- Schraeder, M., & Self, D. R. (2003). Enhancing the success of mergers and acquisitions: An organizational culture perspective. *Management Decision, 41*, 511-522. doi: 10.1108/00251740310479359
- Schwartz, S. H. (1994). Are there universal aspects in the structure and contents of human values? *Journal of Social Issues, 50*, 19-45.
- Schwartz, S. H. (1999). A theory of cultural values and some implications for work. *Applied Psychology: An International Review, 48*, 23-47.
- Schwartz, S. H., & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology, 32*, 268-290.
- Schwartz, S. H., & Bilsky, W. (1987). Towards a universal psychological structure of human values. *Journal of Personality and Social Psychology, 53*, 550-562. doi: 10.1037/0022-3514.53.3.550
- Schwartz, S. H., & Boehnke, K. (2004). Evaluating the structure of human values with confirmatory factor analysis. *Journal of Research in Personality, 38*, 230-255. doi: 10.1016/S0092-6566(03)00069-2
- Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., Harris, M., & Owens, V. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology, 32*, 519-542. doi: 10.1177/0022022101032005001
- Schwartz, S. H., & Sagie, G. (2000). Value consensus and importance: A cross-national study. *Journal of Cross-Cultural Psychology, 31*, 465-497. doi: 10.1177/0022022100031004003
- Shivers-Blackwell, S. (2006). The influence of perceptions of organizational structure & culture on leadership role requirements: The moderating impact of locus of control and self-monitoring. *Journal of Leadership & Organizational Studies, 12*, 27-49.
- Sikorska-Simmons, E. (2005). Predictors of organizational commitment among staff in assisted living. *The Gerontologist, 45*, 196-205.
- Smith, M. E. (2003). Changing an organisation's culture: Correlates of success and failure. *Leadership and Organization Development Journal, 24*, 249-261. doi: 10.1108/01437730310485752
- Sommer Harrits, G. (2011). More than method?: A discussion of paradigm differences within mixed methods research. *Journal of Mixed Methods Research, 5*, 150-166. doi: 10.1177/1558689811402506
- Stuhr, J. J. (2003). *Pragmatism, postmodernism, and the future of philosophy*. New York, NY: Routledge.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Allyn and Bacon.
- Taormina, R. J. (2008). Interrelating leadership behaviors, organizational socialization, and organizational culture. *Leadership & Organization Development Journal, 29*, 85-102. doi: 10.1108/01437730810845315
- Taormina, R. J. (2009). Organizational socialization: The missing link between employee needs and organizational culture. *Journal of Managerial Psychology, 24*, 650-676. doi: 10.1108/02683940910989039
- Tepeci, M., & Bartlett, A. L. B. (2002). The hospitality industry culture profile: A measure of individual values, organizational culture, and person-organization fit as predictors of job satisfaction and behavioral intentions. *International Journal of Hospitality Management, 21*, 151-170. doi: 10.1016/S0278-4319(01)00035-4

- The Economist (2010, May 27th). Light and death: A series of deaths expose a big computer-maker to unaccustomed scrutiny. Retrieved from http://www.economist.com/node/16231588?story_id=16231588
- Toor, S. R., & Ofori, G. (2009). Ethical leadership: Examining the relationships with full range leadership model, employee outcomes, and organizational culture. *Journal of Business Ethics, 90*, 533-547. doi: 10.1007/s10551-009-0059-3
- Tzeng, H.-M., Ketefian, S., & Redman, R. W. (2002). Relationship of nurses' assessment of organizational culture, job satisfaction, and patient satisfaction with nursing care. *International Journal of Nursing Studies, 39*, 79-84. doi: 10.1016/s0020-7489(00)00121-8
- Van Vianen, A. E. M. (2000). Person-organization fit: The match between newcomers' and recruiters' preferences for organizational cultures. *Personnel Psychology, 53*, 113-149.
- Verquer, M. L., Beehr, T. A., & Wagner, S. H. (2003). A meta-analysis of relations between person-organization fit and work attitudes. *Journal of Vocational Behavior, 63*, 473-489.
- Wallach, E. J. (1983). Individuals and organizations: The cultural match. *Training and Development Journal, 37*, 28-36.
- Wang, I. M., Shieh, C. J., & Wang, F. J. (2008). Effect of human capital investment on organizational performance. *Social Behavior and Personality, 36*, 1011-1022.
- Warr, P. B., Cook, J. D., & Wall, T. D. (1979). Scales for the measurement of work attitudes and psychological well-being. *Journal of Occupational and Organizational Psychology, 58*, 229-242.
- Wells, M. M., Thelen, L., & Ruark, J. (2007). Workspace personalization and organizational culture. *Environment and Behavior, 616-634*. doi: 10.1177/0013916506295602 39:
- Westerman, J. W., & Cyr, L. A. (2004). An integrative analysis of person-organization fit theories. *International Journal of Selection and Assessment, 12*, 252-261.
- Wilson, A. M. (2001). Understanding organisational culture and the implications for corporate marketing. *European Journal of Marketing, 35*, 353.
- Xenikou, A., & Simosi, M. (2006). Organizational culture and transformational leadership as predictors of business unit performance. *Journal of Managerial Psychology, 21*, 566-579. doi: 10.1108/02683940610684409
- Yiing. (2009). The moderating effects of organizational culture on the relationships between leadership behaviour and organizational commitment and between organizational commitment and job satisfaction and performance. *Leadership and Organization Development Journal, 30*, 53-86. doi: 10.1108/01437730910927106
- Yousef, D. A. (1998). Predictors of decision-making styles in a non-western country. *Leadership and Organization Development Journal, 19*, 366-373. doi: 10.1108/01437739810242522
- Zammuto, R. F., & Krakower, J. Y. (1991). Quantitative and qualitative studies of organizational culture. In R. W. Woodman & W. A. Pasmore (Eds.), *Research in organizational change and development*. Greenwich, CT: JAI Press.

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Appendices

Appendix A: Values types, definitions, and indicators. Reproduced from Schwartz and Sagie (2000, p. 468).

Type	Definition	Value
Self-direction	Independent thought and action (choosing, creating, exploring)	Creativity, freedom, independent, curious, choosing own goals
Stimulation	Excitement, novelty, and challenge in life	Daring, a varied life, an exciting life
Hedonism	Pleasure and sensuous gratification for oneself	Pleasure, enjoying life
Achievement	Personal success through demonstrating competence according to social standards	Successful, capable, ambitious, influential
Power	Social status and prestige, control or dominance over people and resources	Social power, authority, wealth
Security	Safety, harmony, and stability of society, relationships, and self	Family security, national security, social order, clean, reciprocation of favours
Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms	Self-discipline, obedient, politeness, honouring parents and elders
Tradition	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provide	Accepting one's portion in life, humble, devout, respect for tradition, moderate
Benevolence	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact	Helpful, honest, forgiving, loyal, responsible
Universalism	Understanding, appreciation, tolerance, and protection for the welfare of all people and for nature	Broadminded, wisdom, social justice, equality, a world at peace, a world of beauty, unity with nature, protecting the environment

Appendix B: Values Questionnaire Example

You have completed 20% of this survey
0% 100%

Job Satisfaction

Please indicate your level of satisfaction with the following aspects of your job:

Your chance of promotion
?

	I'm extremely dissatisfied	I'm very dissatisfied	I'm moderately dissatisfied	I'm not sure	I'm moderately satisfied	I'm very satisfied	I'm extremely satisfied	No answer
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

The way your firm is managed
?

	I'm extremely dissatisfied	I'm very dissatisfied	I'm moderately dissatisfied	I'm not sure	I'm moderately satisfied	I'm very satisfied	I'm extremely satisfied	No answer
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

The attention paid to suggestions you make
?

	I'm extremely dissatisfied	I'm very dissatisfied	I'm moderately dissatisfied	I'm not sure	I'm moderately satisfied	I'm very satisfied	I'm extremely satisfied	No answer
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Your hours of work
?

	I'm extremely dissatisfied	I'm very dissatisfied	I'm moderately dissatisfied	I'm not sure	I'm moderately satisfied	I'm very satisfied	I'm extremely satisfied	No answer
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

The amount of variety in your job
?

	I'm extremely dissatisfied	I'm very dissatisfied	I'm moderately dissatisfied	I'm not sure	I'm moderately satisfied	I'm very satisfied	I'm extremely satisfied	No answer
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

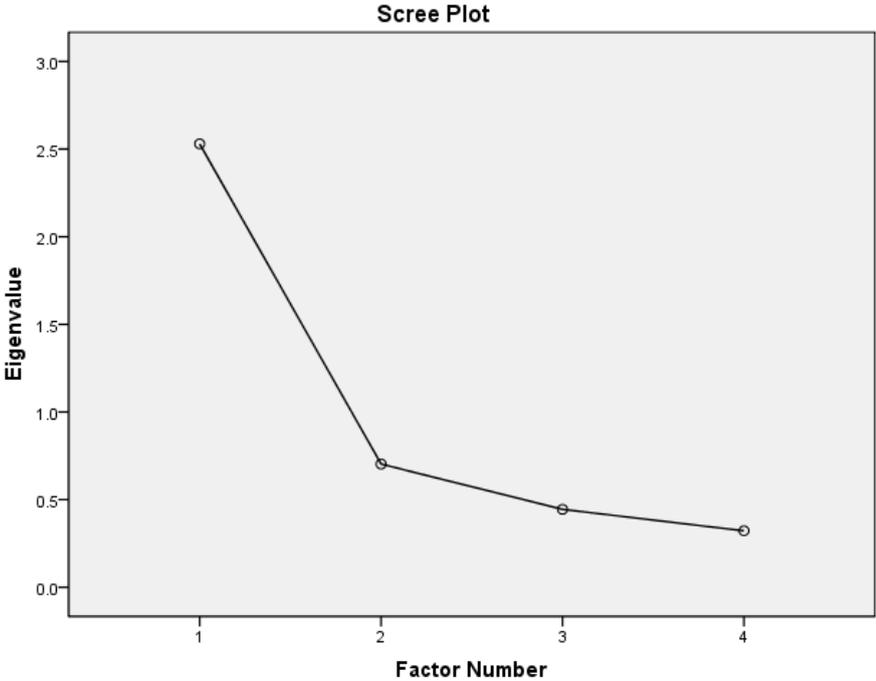
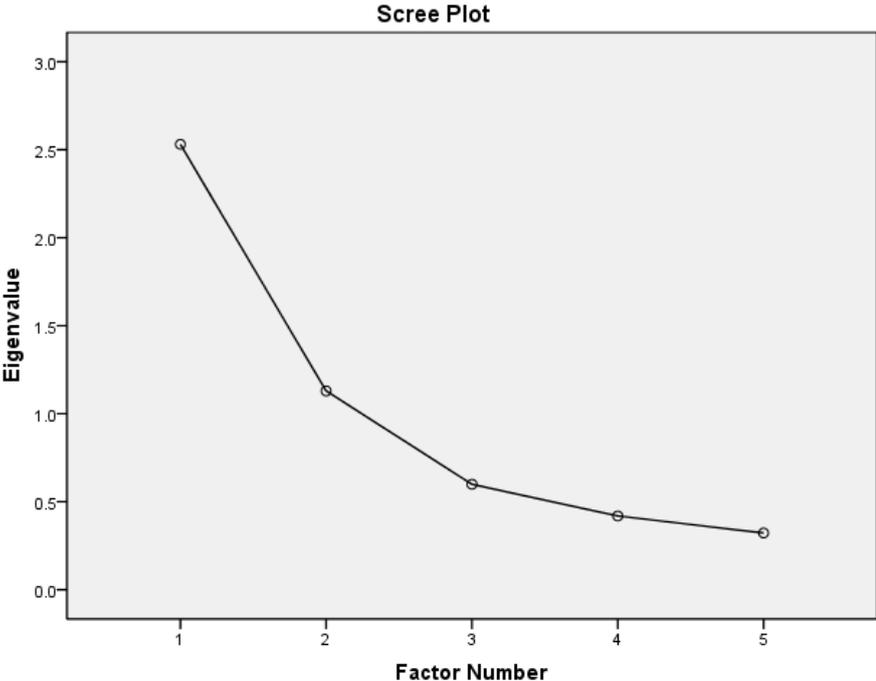
Your job security
?

	I'm extremely dissatisfied	I'm very dissatisfied	I'm moderately dissatisfied	I'm not sure	I'm moderately satisfied	I'm very satisfied	I'm extremely satisfied	No answer
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please indicate your responses to the following questions.

How often do you think about quitting your organisation?
?

Appendix C: Scree plots of the GWS exploratory factor analysis, demonstrating a possible two factor model (top) being reduced to a better-fitting one factor model (bottom) following the removal of Continuance Organizational Commitment.



Appendix D: Survey Pilot Testing.

A pilot test of the on-line version of the survey was conducted to receive feedback about the questionnaire length and the ease of understanding of items and instructions.

Participants: Participants were sourced through the use of online venues such as social networking sites, message boards, and messenger services. Fifty one participant responses (Male $N = 14$, Female $N = 37$) were used in the test sample, with the means and standard deviations for occupational and organizational tenure, as well as age, presented in Table A.

Table A.
Means and Standard Deviations of Demographic Statistics Pertaining to the Test Sample ($N = 51$).

	Age	Occupational Tenure	Organizational Tenure
M	28.39	5.56	2.89
SD	13.49	6.73	2.46

Note. All figures are reported in years, M = Mean, SD = Standard Deviation.

After receiving participant feedback regarding the length and readability of the questionnaire, their data was archived and not involved in the hypothesis testing outlined in the study results. The survey originally contained items that allowed for multidimensional scaling to be performed as intended in the study proposal. However, as multidimensional scaling was not considered to add significant explanatory value after involving factor analysis techniques in the study, the multidimensional scaling items were removed to reduce survey length.

Appendix E: Study Flyer Example

Do you fit in?

Fitting in seems to be something most of us do on a daily basis. But why do some of us enjoy being immersed in the workplace, while others prefer to be an individual?

To figure this out, why not help us shed some light on this question? Your values may be very important in solving this interesting question.



<http://orgname.knowmyvalues.com>
visit to find out more

 **KnowMyValues**

Appendix F: Participant Information Sheet**Curtin University of Technology****School of Psychology****Participant Information Sheet**

Hello! My name is Brody Heritage. I am currently completing a piece of research for my Doctor of Philosophy (Psychology) at Curtin University of Technology. Please read the following information before starting the survey - it gives you an idea of what the survey is about, and how you are going to be participating in the study.

Purpose of Research

I am investigating the effects of your values, and those of your organisation, on how you view your job and workplace. I am also interested to see how the culture of the organisation influences the way in which you view your work experience.

Your Role

I'll be asking for information about your values, and your organisation's values. I'll also want to know how well your values and your organisation's values fit with each other. Lastly, I'll be asking for information about how satisfied you are with your job, and what type of practices you generally see occurring in your workplace.

This information will be collected using the online survey, so all responses will be recorded electronically. The questionnaire should take approximately 15-20 minutes to complete, and provides helpful instructions while you answer the questionnaire.

Consent to Participate

Your involvement in the research is entirely voluntary. You have the right to withdraw at any stage without it affecting your rights or my responsibilities. When you have provided voluntary consent I will assume that you have agreed to participate and allow me to use your data in this research.

Confidentiality

The information you provide will be kept separate from your personal details, and access will be limited to myself and my supervisor. The information you provide will not have your name or any other identifying information on it and in adherence to university policy, the study's collected data will be kept in a secure location for five years, before it is destroyed.

Further Information

This research has been reviewed and given approval by Curtin University of Technology Human Research Ethics Committee (Approval number HR63/2008). If you would like further information about the study, please feel free to contact me by phone on (08) 9266 9545 or by email: brody.heritage@postgrad.curtin.edu.au. Alternatively, you can contact my supervisor Clare Pollock on (08) 9266 7867 or C.Pollock@curtin.edu.au. If you wish to contact a third party who is not directly involved in the study, you can contact the postgraduate coordinator Jan Piek on (08) 9266 7990 or J.Piek@curtin.edu.au.

Please make sure you understand the following points clearly before starting the questionnaire:

- I understand the purpose and procedures of the study.
- I understand that completing the questionnaire itself may not benefit me.
- I understand that my involvement is voluntary.
- I understand that no personal identifying information like my name and address will be used and that all information will be securely stored for 5 years before being destroyed.
- I understand that my organization can't identify who is participating in the survey, and the responses I provide.
- I understand that all of my responses are anonymous and will be kept in strict confidentiality by the researcher.
- I understand that should I decide to pull out of the study at a later time, all submitted information will be impossible to remove due to participant anonymity (we won't know which response is yours).
- I have been given the opportunity to ask questions.
- I agree to participate in the study outlined to me.

Please press the 'next' button below to begin the questionnaire.

Appendix G: Confirmatory factor analysis cut-off values derived from Kline (2005)

χ^2	<i>NC</i> ^a	<i>SRMR</i> ^b	<i>CFI</i> ^c	<i>RMSEA</i> ^d	90% <i>CI</i> ^e
Ideally non-significant.	Ranging from <2.0 - 5.0 (p. 137). My study used 3.0 as the cut-off.	<.10 is desirable (p. 141).	>.90 is desirable (p. 140).	<.80 (p. 139) is desirable.	<.80 (p. 139) is desirable for both lower and upper.

Note. ^a Normed Chi-Square. ^b Standardised Root Mean Square Residual. ^c Comparative Fit Index. ^d Root Mean Square Error of Approximation. ^e 90% Confidence Interval for RMSEA.

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