The Relationship between Personality Traits, Goal Orientation, and Preferred Paths to Value Creation: The Case of Latent Entrepreneurs.

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A Dissertation by

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Dedication

I would like to dedicate this study to my wife, Isabel, for encouraging me to achieve a lifelong dream and her incredible patience as the process seemed never-ending.
The Relationship between Personality Traits, Goal Orientation, and Preferred Paths to Value Creation: The Case of Latent Entrepreneurs.

Abstract

This study examined the relationship between personality and the preferences expressed by latent entrepreneurs amongst different ways of creating value. Latent entrepreneurs are individuals who would prefer to be an entrepreneur rather than a salaried employee. Latent entrepreneurs take all the first time decisions on entering entrepreneurship and their entry choices have been linked in the literature to their expressed preferences.

The study addressed the personality-value creation relationship through two goals. The first addressed the personality-value creation preference relationship directly. Value creation was operationalized using the Competing Values Model (Quinn & Rohrbaugh, 1983). Each approach to value creation was regressed on hypothesized personality traits. It was found that a different, hypothesized, personality trait was associated primarily with each of the personality-value creation relationships.

The second goal, based on theoretical insights by Schneider et al. (1995) and Schein (2004) tested the role of goal orientation as a possible mediator of the personality-value creation relationship. Three of the four goal orientations of contemporary goal orientation theory (Elliot & McGregor, 2001) were found to mediate the different personality-value creation relationships.

The study represents a break with traditional personality research in entrepreneurship, which focuses on the entrepreneur rather than on the venture the entrepreneur creates. The theoretical and practical implications of this different approach are discussed.
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

Table of Contents

Acknowledgements .......................................................................................................................... 1
Dedication .................................................................................................................................... 1
Abstract ........................................................................................................................................ 2
Table of Contents ........................................................................................................................... 3
Chapter 1: Introduction ................................................................................................................... 7
Chapter 2: Literature Review ......................................................................................................... 11
  Value Creation (Criterion) ............................................................................................................ 12
  Personality (Antecedent) ................................................................................................................ 13
  Goal Orientation (Mediator) .......................................................................................................... 16
Chapter 3: Methodology .................................................................................................................. 18
  Sample ......................................................................................................................................... 18
  Instruments .................................................................................................................................. 20
  Analytic Approach ........................................................................................................................ 28
  Post Hoc Analyses ....................................................................................................................... 31
Chapter 4: ‘Create’ Culture Values ................................................................................................. 32
  Relating Personality to Preferences for ‘Create’ Culture Values ................................................ 32
  Relating Goal Types to Culture Preferences ............................................................................. 34
  Relating Personality Creativity and the MAp Goal Type ............................................................ 35
  Mediation Hypothesis .................................................................................................................... 36
‘Create’ Results .............................................................................................................................. 36
  Descriptive Statistics ................................................................................................................... 36
  Regression of Preference for ‘Create’ on Personality Variables ................................................. 37
  Regression of Preference for ‘Create” Culture on Goals ............................................................ 37
  Multiple Regression of MAp Goal on Personality Traits ............................................................ 38
  Mediation ..................................................................................................................................... 38
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

Chapter 5: ‘Compete’ Culture Values ................................................................. 39
Relating Personality Traits and ‘Compete’ Culture Values Preferences .................. 39
Relating Goal Types to ‘Compete’ Culture Preferences .......................................... 41
Relating Personality Traits and the PAp Goal Type .............................................. 42
Mediation Hypothesis ......................................................................................... 42
‘Compete’ Results ............................................................................................ 42
Descriptive Statistics ......................................................................................... 43
Regression of Market on Personality Variables .................................................. 43
Regression of Market Culture on Performance-Approach Goal .............................. 43
Multiple Regression of PAp Goal on Personality Traits ....................................... 44
Mediation ........................................................................................................... 44
Chapter 6: ‘Control’ Culture Values .................................................................. 45
Relating Personality Traits and Preferences for ‘Control’ Culture Values ............ 45
Relating Goal Types to ‘Control’ Culture Preferences .......................................... 46
Relating Personality Traits and the PAv Goal Type .............................................. 48
Mediation Hypothesis ......................................................................................... 48
‘Control’ Results ............................................................................................. 48
Descriptive Statistics ......................................................................................... 49
Regression of Preference for ‘Control’ on Personality Variables ............................ 49
Regression of Preference for ‘Control’ Culture on Performance-Avoid Goal .......... 50
Multiple Regression of PAv Goal on Personality Traits ..................................... 50
Mediation ........................................................................................................... 51
Chapter 7: ‘Collaborate’ Culture Values ............................................................. 51
Relating Personality Traits and Preferences for ‘Collaborate’ Culture Values ....... 52
Relating Goal Types to ‘Collaborate’ Culture Preferences .................................... 53
The relationship between personality traits, goal orientation, and preferred...

Relating Personality Traits and the MAp Goal Type ................................................................. 54
Mediation Hypothesis .................................................................................................................. 55
‘Collaborate’ Results .................................................................................................................. 55
Descriptive Statistics .................................................................................................................. 55
Regression of Preference for ‘Collaborate’ on Personality Variables ........................................ 56
Regression of Preference for ‘Collaborate’ on Goal Orientation .............................................. 56
Multiple Regression of MAp Goal on Personality Traits ......................................................... 56
Mediation .................................................................................................................................... 57
Post Hoc Test ............................................................................................................................. 57
Chapter 8: Discussion & Further Research ............................................................................. 58
Theoretical Implications .............................................................................................................. 59
Practical Implications .................................................................................................................. 63
Chapter 9: Limitations ................................................................................................................ 66
Concluding Statement ................................................................................................................ 68
References .................................................................................................................................... 70
Tables and Figures ....................................................................................................................... 88

Figure 1: Diagrammatic Representation of the Mediated Relationship .................................. 88
Figure 2: Diagrammatic Representation of the Competing Values Model .............................. 89
Figure 3: Diagrammatic Representation of Goal Orientation Theory ..................................... 90
Figure 4: Diagrammatic Representation of the Nature of the Organizational Culture Assessment Instrument (OCAI): A Strategic Choice of How to Add Value versus the Cultural Elements that Operationalize that Approach ................................................................. 91
Figure 5: Structural Equation Model of the Relationships between the Personality Variables and the Four Cultures of the Competing Values Model ................................................................................. 92
Table 1: Descriptive Statistics, Intercorrelations and Reliabilities (on Diagonal) ................. 93
Table 2: Percentage Variance Explained by Goal Orientation for Each Value Creation Approach ........................................................................................................................................ 94
Table 3 – List of Variance Explained By Each Mediated Model ........................................... 95
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

Table 4: Moderation Test Statistics: Centred z-Statistics ................................................................. 96

Table 5: Summary of Hypotheses, Results, and Variance Explained ............................................. 97

Appendix ............................................................................................................................................... 98

Survey Questions for Clear Voice Research ....................................................................................... 98
The Relationship between Personality Traits, Goal Orientation, and Preferred Paths to Value Creation: The Case of Latent Entrepreneurs.

Chapter 1: Introduction

For almost a half a century government policy has encouraged people to become entrepreneurs (Minniti, 2008). Over the same period, personality research in entrepreneurship has focused almost exclusively on identifying the personality traits that distinguish entrepreneurs from non-entrepreneurs and the traits associated with being successful as an entrepreneur (e.g., McClelland, 1961; Rauch & Frese, 2007: meta-analysis). More recently, government, while remaining interested in promoting entrepreneurship in general, has shown interest in the value creation characteristics of the ventures entrepreneurs start (e.g., Henrekson, & Johansson, 2008; Wells & Hungerford, 2011). Despite this evolution in policy thinking, recent personality research in entrepreneurship has retained its traditional focus on the description of the entrepreneurial personality (e.g., Rauch & Frese, 2007) and has largely ignored prior research that postulated that “the personal characteristics of entrepreneurs will also have an influence on the type of firm that will be created” (Lafuente & Salas, 1989: 18; see also Ardichvili, Cardozo, & Ray, 2003 p.110). In short, entrepreneurship research has left largely unexplained the relationship between personality and the evident heterogeneity of ventures started by entrepreneurs. This study seeks to address this gap between emerging policy interest and personality research in entrepreneurship by breaking with traditional entrepreneurship personality research and focusing not on the entrepreneur but on the venture he or she prefers to create. Specifically, the study examines the relationship between personality and the preferences expressed by potential entrepreneurs amongst different ways of creating value.
This study focuses on the value creation preferences of latent entrepreneurs. Latent entrepreneurs are found at the base of the entrepreneurship pyramid of latent, nascent, actual, and serial entrepreneurs (Blanchflower, Oswald, & Stutzer, 2001; Grilo & Thurik, 2005). Latent entrepreneurs are the pool from which all actual entrepreneurs emerge and where all first-time decisions on modes of initial entry into entrepreneurial contexts are made. Converting latent entrepreneurs to actual entrepreneurs is a key challenge of economic growth policy in the West as it seeks to compete in a lower-wage global economy (Flash European Barometer, 2004; European Commission Papers, 2003; 2004). Further, it can be argued that the process of identifying an opportunity and founding a venture cannot be fully understood unless the mindset, including the effects of personality, of the would-be founder is addressed. Addressing latent entrepreneurs is not within the traditional boundary of entrepreneurship studies, which mostly begin at the point of first action (nascent entrepreneurs); but we contend that that first action cannot be fully understood without examining the individual’s prior state (latent). Given their economic potential and their role taking all first-time decisions, latent entrepreneurs would seem to be important and the influence of their personalities and attitudes on their preferences for what kind of business to open worth studying, particularly as their preferences may influence actual choices (Holland, 1985; Hollander & Parker, 1972).

The focus of this study is value creation. The approach to value creation can be thought of as, perhaps, the central strategic decision made by a new entrepreneur. Examining preferences for paths to value creation would, therefore, seem to be important. Preferred approaches to value creation are operationalized in this study through the Competing Value Model (CVM) (Quinn & Cameron, 1983); a model that defines four cultures (Clan, Market, Adhocracy, and Hierarchy) based on their underlying source of value add (collaborate, compete, create, and control)
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

respectively). The CVM makes the link between value creation choices and organizational culture explicit; in this study the terms are treated as synonymous. Up until 2009 there was a dearth of empirical research into the personality-culture relationship (Giberson et al., 2009). However, Giberson et al. (2009) tried to link CEO personality to culture (CVM) by regressing culture values on CEO personality (Big 5), but with limited success. They found that CEO agreeableness and emotional stability, in particular, appear to have linkages with culture values captured by the CVM, but that the impact of personal values (except CEO status) was not significant. Since Giberson et al. (2009), several further attempts have been made to link the Big Five to the cultures of the Competing Values Model. In entrepreneurship Leitch (2010) found relationships for agreeableness linked to Clan and conscientiousness related to Hierarchy. In the recruitment literature, Gardner, Reithel, Cogliser, Walumbwa, and Foley (2012) linked the Big Five Personality variables to personality-culture fit using the CVM. Their study was complementary to one by Judge and Cable (1997) which used the Organizational Culture Profile (OCP; O’Reilly et al., 1991) to study student job applicant personality (Big 5) to culture preferences and target-employer actual cultures. The results of these studies were similar: agreeableness, extraversion and neuroticism were positively related to a Clan culture; conscientiousness was positively associated and openness negatively associated with Hierarchy; agreeableness negatively associated with the competitive Market culture, and openness positively associated with the Adhocracy culture. Finally, a working paper by O’Reilly, Caldwell, Chatman, and Doerr (2012), again using the Big Five and the CVM found similar results. All these studies focused on the Big Five personality variables. Yet Rauch and Frese (2007 p.357-358: meta-analysis) contended that from an entrepreneurship perspective individual
facets are better predictors than the compounded Big Five variables. This study follows the Rauch & Frese (2007: meta-analysis) argument and focuses on individual traits.

The first goal of the present study was to focus on assessing whether different personality traits of latent entrepreneurs are associated with different value creation preferences that theoretically would be a good match for them. Understanding these relationships may help illuminate self-selection into different manifestations of entrepreneurship and thereby recognize the heterogeneity of entrepreneurs with respect to the nature of the businesses they start. There are numerous vehicles for starting a business (e.g., franchise, high-tech start-up, finding a niche in a mature market, or being a self-employed individual) each of which represents a different approach to creating value. Given the focus-to-date of personality research on whether a person is suited to entrepreneurship, and the minimal focus on the variety of organizations entrepreneurs start, this study could be a first step toward linking personality to specific venture choices; for example, identifying the differences between a franchisor who creates something new and systematizes it and the franchisee who lives within the boundaries of the system.

The general dearth of empirical research into the personality-culture relationship includes minimal research into variables that may influence the relationship (cf., Carland et al., 1996; see Hisrich et al., 2007). Yet, there are theoretical indicators of possible mediation of the personality-culture values relationship by the goals founders set. Schein (2004) wrote that “organizations do not form spontaneously. Instead, they are goal oriented and have a specific purpose” (Schein, 2004: p. 212), while Schneider, Goldstein, and Smith (1995) suggested that an organization’s goals are reflections of the founder’s personality. These statements, seen together, may imply that goal orientation mediates the relationship between latent entrepreneur personality and culture value preferences. Given this interpretation of the theoretical guidance, the second goal
of the present study was to find whether goal orientation could act as a mediator of each of the personality-value creation preference relationships. Mediation is only one of several possible roles for goal orientation. An understanding of Schein (2004) and Schneider et al.’s (1995) combined proposal would be stronger if the other possible roles for goal orientation were found to be less likely. This was addressed first by testing whether other possible roles for goal orientation in the personality-value creation relationship could be discounted. The following alternate roles for goal orientation were tested: goal orientation as a moderator, goal orientation as an independent variable with the personality variable as the mediator, and, finally, all the variables acting independently.

This paper is organized as follows. First, the operationalization of culture values, personality and goal orientation is discussed in the Literature Review. Second, the Methodology is outlined. Third, four identical analyses, one for each of the four value creation approaches are undertaken. Each analysis hypothesizes the personality traits associated with each approach to adding value and addresses the role of goal orientation as a possible mediator of the relationship. The hypotheses and results are recorded, in full, each in a separate chapter. Finally, there are Discussion & Further Research, and Limitations chapters, and a Concluding Statement.

Chapter 2: Literature Review

The Literature Review outlines the operationalizations of value creation, personality, and goal orientation; the conceptual development and hypotheses are recorded in separate chapters. The three elements of the studied relationship are illustrated in Figure 1.
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

Value Creation (Criterion)

A number of culture models exist in the literature (e.g., Organizational Culture Inventory®, Cooke & Lafferty 1987; Organizational Culture Profile; O’Reilly, Chatman & Caldwell. 1991; Competing Values Model, Quinn & Rohrbaugh, 1983) each proposing a different set of cultural values. Additionally, some theorists recommend focusing on specific values to understand operational processes (e.g., Kluckhoh, 1951; Schein, 2004; Meglino & Ravlin, 1998). This study follows Giberson et al. (2009) and other recent researchers in selecting the Competing Values Model (CVM) to operationalize the preferred paths to value creation.

The CVM taxonomy (see Figure 2) was developed and elaborated by Quinn and colleagues (for example, Quinn, 1988; Quinn & Cameron, 1983; Quinn & Kimberley, 1984; Quinn & Rohrbaugh, 1983; Cameron, Quinn, DeGraff, & Thakor, 2006) and is the only approach focused on the relationship of culture to value creation. The research underlying the initial creation of the model tapped into the insights of the community of leading value creation scholars of the time (Quinn & Rohrbaugh, 1983). The CVM has been validated in numerous contexts over nearly thirty years of research (e.g., Kalliath, Bluedorn, & Gillespie, 1999) and is used in both practice/consulting (see Cameron et al., 2006) and scientific studies of organizational culture and fit (e.g., Van Vianen, 2000). The CVM has been rated as one of the forty most important management theoretical models ever developed (Ten Have, Ten Have, Stevens, & van der Elst, 2003) and is included in standard textbooks in, for example, organizational design (e.g., Daft & Armstrong, 2009), and organizational dynamics (e.g., Cawsey, Deszca, & Ingols, 2012).

The CVM described by Quinn and Rohrbaugh (1983) is focused on the ways organizations create value; value is defined very broadly as the excess of benefits produced by an organization over the cost to the organization of producing those benefits (Cameron et al., 2006). The CVM
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

posits that, as they try to create value, organizations experience competing tensions along two dimensions (see Figure 2): the structural demands for flexibility versus rigidity (stability and control), and a focus on internal maintenance versus external competitive positioning (Cameron & Quinn. 2006). These two dimensions combine to define four paths to generating value: ‘create’ (flexible-external), ‘compete’ (rigid-external), ‘control’ (rigid-internal) and ‘collaborate’ (flexible-internal).

INSERT FIGURE 2 ABOUT HERE

Each quadrant represents a mental model; an assumption about how value can be created. A great deal of research has established that individuals tend to gravitate toward one of the quadrants (Cameron & Quinn, 2006). They tend to cling to that quadrant as their assumption of the best way of creating value even though they may, intellectually, understand the value-creation potential of other approaches (Cameron & Quinn, 1999). If Cameron and Quinn’s (1999; 2006) observations are correct, a latent entrepreneur contemplating a business would embrace a preference for a dominant assumption of how value is created.

Personality (Antecedent)

Some 51 personality variables have been associated with entrepreneurship (Gartner, 1988; Rauch & Frese, 2007: meta-analysis) and numerous attempts have been made to develop subsets of traits present in those who elect to become an entrepreneur rather than (say) a manager (e.g., Baum & Locke, 2004; Collins, Hanges, & Locke, 2004: meta-analysis; Rauch & Frese, 2007: meta-analysis; Stewart & Roth, 2004: meta-analysis; Zhao and Seibert, 2006: meta-analysis). No commonly agreed subset has yet been established; indeed, Gartner (1988) posited that the heterogeneity of entrepreneurs makes a common subset impossible. Given this lack of consensus
in the literature, two exploratory studies of the relationship between personality and different venture types were undertaken using samples drawn from business students at a central Canadian university. Eleven personality variables were addressed included those deemed ‘most-studied’ in the entrepreneurship literature by Rauch and Frese (2007: meta-analysis). The ones selected for this confirmatory study were derived from analysis of those earlier studies. The selected traits were creativity, attitudes to risk, and motivations to succeed. All have a long history of study in the entrepreneurship literature.

Creativity is most famously associated with Schumpeter (1935) who saw entrepreneurship as a gale of creative destruction and more recently by, for example, Amabile (1983; 1996). Attitude to risk was first considered central by Cantillon (1755) and more recently by, for example, Mill (1909), Knight (1921), and Drucker (1970). The seminal work on individual motivation related to entrepreneurship was done by McClelland (1961) building on Murray’s (1935) theory of needs. McClelland specified three ‘needs’ that he deemed central to motivating the individual in business: the need for achievement (treated here as a mediating attitude), and the needs for affiliation and power.

Creativity has long been studied as a facet of culture (e.g., Barney, 1986; Tesluk et al., 1997; Woodman et al., 1993); it was selected for this paper based on its centrality to entrepreneurship (Amabile, 1996). As Reynolds et al. (2005 p.208) remarked, “Although there seems to be no generally accepted definition of entrepreneurship; many assessments are unified by the notion that entrepreneurship is about creating something new”. Creativity involves both originality (coming up with original ideas) and appropriateness (the idea must have practical value) (Runco & Charles, 1993).
Risk management is a key aspect of organizational culture (e.g., Schein, 1984; Sitkin & Pablo, 1992). Attitudes to risk are reflected in, amongst others, values, structure, rules and regulations, process rigidity, attitudes to failure and risk-sharing compensation structures (Pidgeon, 1991). Risk tolerance has been traditionally seen as a central characteristic of entrepreneurs as they risk their wealth, reputation, and time on an uncertain outcome (Knight, 1921; Stewart & Roth, 2001: meta-analysis). However, a counter argument has been advanced that entrepreneurs are risk avoidant (Miner & Raju, 2004: meta-analysis) and seek to control their context to minimize risk exposure. Though the precise role of risk in entrepreneurship is unresolved and may vary by type of venture (Miner & Raju, 2004: meta-analysis), attitude to risk is an accepted component of entrepreneurship thinking (Rauch & Frese, 2007).

Need for affiliation (McClelland, 1961; Murray, 1938) describes a person's need to feel a sense of involvement and "belonging" within a social group, a need to be accepted. In a work context it has been associated with supportive cultures built on congruence of values amongst the participants (Koberg & Chusmir, 1987) and such supportive cultural elements as organizational citizenship behaviours (Johnson, 2008), teamwork, and collaboration (McClelland, 1961; Chapman & Schwartz, 2010). In an entrepreneurial context, need for affiliation has been seen as negatively associated with the desire to be an entrepreneur (Lachman, 1980) fitting the idea of the entrepreneur as a ‘lone wolf’ (Henderson, 1974) and was thought to complement a high need for achievement (Lachman 1980). This dual focus supporting both (selfless) group behaviour and a drive to achieve may reflect the idea that need for affiliation is a multi-faceted phenomenon (Hill, 1987; Decker et al., 2012). As such, different facets may come to the fore in different contexts. Facets that focus on comparing one’s performance and wanting to be seen as the centre of things (Hill, 1983) may positively relate to competitiveness and performance driven
contexts where status in a hierarchy may be important. Similarly, facets that focus on wanting other people around when stressed or distraught and enjoying being (and working) with others and having close friendships (Hill, 1983) may relate to supportive and team-based contexts.

*Need for power* involves an imperative to be in charge, to manage others and to want things done one’s way; it was recognized by McClelland (1961) as a core motivation of successful management. Need for power has been associated with bureaucratic (rigidly structured) organizations focused on performance (Koberg & Chusmir, 1987). Need for power is also associated with leadership (Wainer, & Rubin, 1969; Kirkpatrick, & Locke, 1991), which is, itself, central to culture (e.g., Hofstede, 1984) and entrepreneurship.

**Goal Orientation (Mediator)**

Goal orientation theory (GOT) addresses the individual’s attitude to success and is a facet of achievement motivation theory. Need for achievement has long been established as a driver of entrepreneurship choices and success (McClelland, 1961). GOT has contributed to the understanding of a wide range of achievement-associated phenomena, including creativity (e.g., Hirst, Van Knippenberg, & Zhou, 2009), leadership (e.g., Whitford & Moss, 2009), and sales performance (e.g., VandeWalle, Brown, Cron, & Slocum, 1999). Goal orientation was proposed by Schein (2004) as an influence on organization formation and by Schneider et al. (1995) as influenced by personality. Despite being a manifestation of achievement motivation, GOT has only rarely been used in the entrepreneurship literature (e.g., Utsch & Rauch, 2000; Kickul & Kickul, 2006). Indeed, the term ‘goal orientation’ is used in the entrepreneurship literature primarily as a representation of a type of target goal (e.g. Stewart, Watson, Carland, Carland, & Sweo, 2003) such as profit or asset growth.
Goal orientation theory differs from goal setting theory in that it affects outcomes in “weak” contexts (such as entrepreneurship), where the goal is vague (e.g., ‘do your best’) rather than the specific and challenging goals of goal setting research (Seijts et al., 2004). Entrepreneurship settings have little or no explicit guidance except the preferences of the founder.

The most recent manifestation of goal orientation theory (GOT) that has attracted a substantial body of research (see Figure 3) is the 2x2 model developed by Elliot and colleagues (e.g., Elliot, 1999; Elliot & Church, 1997; Elliot & McGregor, 2001; Elliot & Thrash, 2002) in the education literature. The model has two axes. The first axis is concerned with definitions of success and divides into (1) self-generated norms that support a desire for mastery and personal competence and (2) norms provided by others that support a focus on performance. The second axis builds on regulatory-focus theory (e.g., Atkinson, 1957; Higgins, 1997) and posits two, primary, behaviours: promotion and prevention. In GOT, this has been framed as valence: approach and avoid (Elliot & Church, 1997). Together the axes specify four goals. Performance-Approach (PAp): the goal is to win competitively through superior performance. Performance-Avoid (PAv): the goal is to avoid losing and being humiliated in front of others. Mastery-Approach (MAP): the goal is to build competence for one’s own satisfaction. Mastery-Avoid (MAv): the goal is to avoid a decline of competence in one’s own eyes. It should be noted that a more recent proposal for a goal orientation typology is a 3x2 version by Elliot et al. (2011) but this has, as yet, achieved minimal use in research; additionally, its use of a third source of achievement norms based on absolute standards is deemed of little value in entrepreneurship where such standards are largely non-existent.
Chapter 3: Methodology

Four tests of the personality-goal orientation-culture relationship were undertaken one for each value creation approach. Each test used the exact same methodology.

Sample

A sample of latent entrepreneurs was sourced from a commercial panel provider: Clear Voice Research (CVR). CVR conducts large scale commercial research and is in compliance with the ethics and recommended best practice of all major national bodies, treaties, and regulations.1 Participants were volunteers and were financially compensated. All were adults between 25 and 45 being the most likely age range to open a business (e.g., Blanchflower, Oswald, & Stutzer, 2001; Shane, 2008), and elected to join the panel under a double opt-in process. None had ever been involved in an entrepreneurial venture.

Data were collected in three waves: Wave 1 independent variables – traits; Wave 2 the mediator – Goals; and Wave 3 dependent variable – CVM culture values. To be included in the sample a panelist must have contributed to all three waves and to have yielded quality data. To encourage completion of all three waves a web site detailing the underlying theory was created, but could only be accessed on completion of the third questionnaire (www.fastracu.com).

Latent entrepreneurs are defined as individuals who would prefer to be self-employed rather than being an employee. The aim was to select a sample of latent entrepreneurs from the

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1 On data and privacy, CVR complies with EU Safe Harbor (data protection), and COPPA (Children’s Online Privacy Policy) in the US. On codes of practice CVR complies with, e.g. ICC/ESOMAR International Code (International Code Council /The European Society for Opinion and Market Research), CASRO guidelines (Council of American Survey Research Organizations). On industry standards CVR complies with, amongst others; ESOMAR (European Society for Opinion and Marketing Research), the MRS (Market Research Society: UK), the AMSRS (Australian Market & Social Research Society), BVM (Germany), CASRO (Council of American Survey Research Organizations), MRA (Market Research Association: US), and MRIA (The Marketing Research and Intelligence Association: Canada).
provider’s panel. An initial sample of latent entrepreneurs was generated by approaching the panel using the filter question “Suppose you could choose between different kinds of jobs, which one would you prefer: (forced choice) (1) Being an employee? (2) Being self-employed; defined as an individual working alone? (3) Running your own business; defined as owning a business with employees?” All those who answered (1) were automatically excluded from the sample. Those who answered (2) or (3) constituted the sample of latent entrepreneurs. Of these 51.3% preferred (2) and 48.7% preferred (3). This approach to identifying latent entrepreneurs is consistent with that used in the European Community research with the exception of the additional split between working alone and creating an organization (Flash European Barometer, 2004; Grilo & Thurik, 2005). A further filter was included to ensure that no participant had opened a business. The sample descriptive statistics are as follows.

The original sample filter created a Wave 1 sample of 1150 (59.6% female). Over the next two waves this sample fell to 518 as panelists dropped out and the sample cleaning operations described above were applied; this gave a total (usable) response of 45%. The entire final sample was aged between 25 and 45 of which 49.6% were between 25 and 34 the balance of 50.4% being between 35 and 45. Of this sample of 518, 63.1% were female and 92.7% of respondents had more than 5 years of work experience. Racially, the distribution was 76.6% white, 9.5% black, 6.4% Hispanic, and 3.7% Asian. Educationally, only 6% had less than a high school diploma as their highest achievement, 36% had a high school diploma, and 58% had college degree or higher. 22.3% have parents with their own business and 42.5% have friends with their own business (correlates with becoming an entrepreneur: Dunn & Holtz-Eakin, 2000).

Sample size to avoid Type I and Type II errors was tested against the rules contained in Wilson and Morgan (2007) and was found to be sufficient. The regressions contain a maximum
of four predictors. The recommended rules of thumb for four predictors range from sample sizes of 54 to 184 depending on source (Wilson & Morgan, 2007): the actual sample is 518. Sample size exceeds the minimum (200) recommended by Baron and Kenny (2012) for studies using structural equation modelling.

**Instruments**

All the instruments used are established in the literature. The relevant items from the amended Research Ethics Board application are in Appendix 1. Reliability (alpha) data was derived from the original source and tested for each scale with the current sample.

*Competing Values Measure:* The six part OCAI (Organization Culture Assessment Instrument) was used with a five-point Likert scale (five is high). This tool was developed by Cameron and Quinn, (2006). It was created for research and consulting purposes. The items represent the four ways value is created: ‘create’, ‘compete’, ‘control’, and ‘collaborate’. They are not focused on the techniques by which value is actually achieved. For example, the OCAI includes items such as ‘entrepreneurial’, ‘risk-taking’, ‘cutting edge’, and ‘prospecting’ to identify the ‘create’ mode of value creation; no mention is made of such techniques as teamwork or rapid prototyping, that may be present in a creative organization as the means of releasing and channeling creativity. This is true of all the other modes of value creation.

The OCAI scale has twenty-four items, 6 for each approach to adding value. The items seek to capture 6 different aspects of the culture. So, for example the create form of adding value through an adhocracy culture is as follows: a general description “The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks”; leadership “Considered to be entrepreneurs, innovators, or risk takers”; management style
“Characterized by teamwork, consensus and participation”; a statement of the ‘glue’ idea that holds the culture together “Orientation toward innovation and development. There is an emphasis on being on the cutting edge”; the primary emphasis “Acquiring new resources and meeting new challenges. Trying new things and prospecting for new opportunities are valued”; and the measure of performance “Having the most unique or the newest products. It is a product leader and innovator”.

The four value creation constructs were tested for independence using our sample. Structural equation modelling was used with no connected co-variances. The SE models were created using Amos 18 and SPSS 18 and used maximum likelihood estimation and 90% significance bootstrapping after 2000 samples (Efron & Tibshirani 1994). Fit was measured using chi-square (non-significant), CFI (above .9 minimum), RMSEA (below .08: MacCallum, Browne and Sugawara, 1996, quoted in Kenny, 2012). The measurement model was built with four latent variables one for each quadrant of the CVM. The fit was good: $\chi^2=716.25$ p=.000, CFI=.91, RMSEA=.06; the RMSEA confidence intervals at 90% were .05-.06. The test results confirm that the items in the scale that represent the four value creation constructs – create, control, collaborate, and compete – represent four independent constructs.

**Goal orientation:** Baranik, Barron and Finney’s (2007) work-focused measure of goal orientation was used with a five-point Likert scale (5 is high). This scale is an extension (addition of MAv) of the VandeWalle (1997, 2001) scales. Example items are: for mastery-approach “I enjoy challenging and difficult tasks at work where I’ll learn new skills”; for performance-approach “I like to show that I can perform better than my coworkers”; for performance-avoid “I prefer to avoid situations at work where I might perform poorly”; for mastery-avoid “My main goal at work is to avoid messing up the tasks required for my job”.

21
Alphas recorded by the developers were all in the .8 range. The reliability scores in this sample were in the .83 to .90 range.

The goal orientation questions were tested for independence of the four constructs in the case of this sample using a confirmatory factor analysis. Structural equation modelling was used with no connected co-variances. The SE models were created using Amos 18 and SPSS 18 and used maximum likelihood estimation and 90% significance bootstrapping after 2000 samples (Efron & Tibshirani 1994). Fit was measured using chi-square (non-significant), CFI (above .9 minimum), RMSEA (below .08: MacCallum, Browne & Sugawara, 1996, quoted in Kenny, 2012). The result was a good fit: χ2 (98) 242.44 p=.00, CFI=.97, RMSEA=.05 (90% confidence intervals .05-.06). The test results confirm that the items in the scale that represent the four goal orientation constructs – MAP, PAP, MAV, PAV – represent four independent constructs.

**Social Desirability Bias:** A short form reduction of the Marlow-Crowne Scale (MCSDS) (13 item) was used derived from Reynolds (1982). The scale is a set of items that represent opposing attitudes to sociability, such as “I have never been irked when people expressed ideas very different from my own” versus “There have been times when I was quite jealous of the good fortune of others”.

**Need for power:** The Steers and Braunstein (1976) scale was used with a 1-5 Likert scale with 5 as high. This scale has 5 items and examples of the items are: “I seek an active role in the leadership of a group” and “I find myself organizing and directing the activities of others”. The reliability (alpha) from the source article is .83. Reliability with this sample was .86.

**Need for affiliation:** The five work-focused items in Mathieu’s (1990) 7-item scale were used on a 1-5 Likert scale with 5 as high. Need for affiliation has four facets (Hill, 1987), two that favour supportive, collaborative behaviour and two that are concerned with personal
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

achievement. The selection of the five work-focused items in Mathieu’s (1990) scale favours team collaboration rather than recognition for personal achievement. The five items had a work/team focus, such as: “When I have a choice, I try to work in a group instead of by myself” and “I consider myself a team player when it comes to work activities”. The reliability (alpha) for the full scale from the article is .86. Reliability with this reduced scale and with this sample was .75.

**Creativity:** Creativity has two facets: originality and practicality (Runco & Charles, 1993). For the purposes of this study, the originality personality facet was used to measure creativity. The International Personality Item Pool scale was used to derive a five-item, five-point scale (five is high). Only the positive items were included. Items included: “Am able to come up with new and different ideas” and “Come up with new ways to do things”. The Alpha of the full scale is .81 per the Pool. Reliability with this sample was .92.

**Risk-aversion:** Meertens and Lion (2008) six-item instrument was used with a five-point (five is high) scale focused on risk avoidance. The items in this instrument are generalized to broad attitudes to risk; it has no particular focus on the work context. This is a weakness of the study. Examples of the items are: “I prefer to avoid risks” and “I really dislike not knowing what is going to happen”. Alpha from the original Meertens and Lion (2008) article was .78. Reliability with this sample was also .78.

**Data Quality**

Explicit ex-ante and ex-post steps were taken to ensure data quality.

**Data corruption:** Data can be corrupted by ‘cheating’ by sample participants (Zhang, 1998). The potential for corruption was mitigated by applying checks built-in to the survey
instrument for speeding, flatlining, and multiple survey completions (by using a unique URL for each survey). Between waves results were checked for cheating and panelists removed after each wave for violations such as speeding, flatlining, inattentiveness, random clicking, answering inconsistencies, and selecting dummy answers. Three specific types of trap were included in the survey instrument: survey items that require a particular response to trap cheaters or the inattentive. Reverse-worded pairs of statements to trap speeders and the inattentive and the insertion of text urging respondents to be mindful of their responses while completing the survey, and asking them to agree to be attentive during the survey (opt in); the latter heightens commitment and attentiveness during survey completion. These traps, coincidentally, eliminate machine filling. The data collection approach was based on a self-report questionnaire.

**Self-reporting:** The survey instrument relied on self-reporting. The self-report approach raises issues of understanding, social desirability bias and common method variance (CVM). These were mitigated as follows.

**Understanding:** Under self-reporting participants may not respond truthfully, either because they cannot remember or do not understand the question. Questions are not always clear and one cannot be sure that the respondent has really understood. Additionally, the question or questions may be leading and force the respondent to give a particular reply. This was mitigated in this study by using well-established instruments. Additionally, in this survey, the study’s focus is on self-description (Hollander & Parker, 1972). Self-assessment of personality and goals as well as preferences is part of the focus of the research approach as self-assessment and self-evaluation are the primary tools for self-understanding available to the latent entrepreneur.

**Social desirability bias:** A potential limitation of the analysis is the risk of social-desirability bias. In the case of goal orientation theory there is some mitigation of this bias. Goal
orientation theory overlaps with the logic of social desirability, the desire to impress others or oneself. This distinction is part of what is being sought in the GO data collection: being the distinction between performance and mastery. It could, therefore, be argued that in the case of GO the presence of the bias is what is being measured. However, social-desirability bias could distort the distinction between Avoid and Approach with the more positive Approach choices (perhaps) being marked higher than the negative Avoid choices. Nederhof (1985) listed seven approaches to reducing or identifying social desirability bias. Of those applicable to a survey (i.e., ignoring lab research or personal interviews) the most effective is “anonymous mass self-administration” this “give(s) rise to less distortion than other methods of administration” (p.272). This is the method used for this survey: the administration of the survey across the web and the randomizing of the survey questions. The sample panel was known to the participants as being anonymous in that data identifying the individual is not provided to the researcher. Also, few if any of the items were threatening or representative of socially undesirable or embarrassing behaviours thereby should not have stimulated a defense mechanism (Nederhof, 1985). Despite this argument social desirability data was collected. Examination of the results indicated low bias; four possible outliers were removed. Finally, the data were included as a control variable in all the analyses. It was found to be not significant and had no material effect on the outcomes of the regressions. In view of the above, the test for social desirability bias was not reported.

**Common method variance:** Common method variance (CMV) is "variance that is attributable to the measurement method rather than to the constructs the measures represent" (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003: 879). CMV may exist in self-report data such as this survey and can create false correlations if the respondents have a propensity to provide consistent answers to survey questions that are otherwise not related. A classic issue is the
inclusion of items on the independent variable and the dependent in the same survey instrument (Podsakoff et al. 2003). This is made worse if the instrument is long and induces tiredness or boredom. The use of a single sample that answered all questions raises concerns about CMV.

Ex-ante structural steps were taken to reduce the risk of CMV by breaking the survey into three waves each started a week after the finish of the prior wave so breaking the flow of answering. Additionally, by using three waves rather than one long questionnaire each instrument was shorter so reducing tiredness and boredom (Podsakoff et al. 2003). Additionally, each wave was focused on a different aspect of the personality-culture relationship: personality (IV), goal orientation (mediator), and CVM (DV); this broke the cognitive link between instruments. Respondents are unlikely to be guided by a cognitive map that includes difficult-to-visualize interaction (Podsakoff et al. 2003). Additionally, the steps described earlier that were taken to eliminate speeders etc. will have caught some of the poor responses.

Ex-post analyses were conducted to try to establish if CMV remained an issue despite the ex-ante steps. Confirmatory factor analyses (CFA) were undertaken using Structural Equation Modeling of attribution to a common factor of the mediator items and the CVM items and compared with the appropriate measurement models. The SE models were created using Amos 18 and SPSS 18 and used maximum likelihood estimation and 90% significance bootstrapping after 2000 samples (Efron & Tibshirani 1994). No co-variances were connected. Fit was measured using chi-square (non-significant), CFI (above .9 minimum), RMSEA (below .08). Model fit for the goal orientation items using the one factor model to measure common method variance showed poor fit: χ² (104) 2293.56, p=.00; CFI=.46 and RMSEA=.20. The measurement model of the goal orientation construct using the expected four latent variables was an acceptable fit: χ² (98) 242.44 p=.00, CFI=.97, RMSEA=.05. The difference between the χ² fit in CMV
model and the measurement model was \( (6)2051.12 \). Model fit for the CVM items using the one factor model showed a poor fit: \( \chi^2 (230) \) 2268.28 \( p=.00 \), CFI=.60, RMSEA=.13. The measurement model with the expected four latent variables for the items of the CVM was an acceptable fit: \( \chi^2 (247) \) 716.25 \( p=.00 \), CFI=.91, RMSEA=.06. The difference between the \( \chi^2 \) fit in CMV model and the measurement model was \( (17)1552.03 \). Given the ex-ante structural choices and the ex post tests it was concluded that the structure of the survey had dealt with issues of common method variance.

**Control variables:** Data on several control variables were collected in the survey and tested. However, testing indicated that none of the potential controls had any significant effect in any of the tests. As a result they were not reported in this document. The controls considered were: gender, race, education, exposure to entrepreneurship (parents or friends as entrepreneurs), and years of experience. Gender was selected for its known effect on goal orientation (Elliot & McGregor, 2001) where it impacts the performance-approach orientation (more male). Race has been correlated with entrepreneurial success in the USA (the source of the sample) (Fairlie, & Robb, 2008). Education is a known differentiator in the entrepreneurship literature with the more highly credentialed being more likely to become entrepreneurs (Van der Sluis, Van Praag, & Vijverberg, 2008). Exposure to entrepreneurship (parents or friends as entrepreneurs) has been shown to influence the likelihood of becoming an entrepreneur (Parasuraman, Purohit, Godshalk, & Beutell, 1996). Unfortunately, data were not collected on the types of business those influencers founded; this represents an opportunity for further research on continuity and influence from prior examples. Finally, experience gained by the entrepreneur from years of working experience has been shown to influence the type of venture a person would select (Iyigun & Owen, 1998).
Analytic Approach

The initial analytic approach was bivariate correlation to be further illustrated by regression analysis. Additionally, hierarchical regression was to be used to test the relative strengths of relationships (through variance explained) and for the mediation.

It was expected that a degree of multi-collinearity could exist as between the various variables studied in this paper; particularly between the various goal orientations (see Elliot & McGregor, 2001). Such collinearity could impact the results of the regression analyses. Although collinearity does not affect the results of the total regression model, it may affect the results for individual predictors in a multiple regression (including levels of variance explained). To assess the potential for a multi-collinearity problem, several tests of multi-collinearity were made on every regression. Tolerances were calculated and the rule of thumb of being above .1 to .2 (Kutner, Nachtsheim, Neter, 2004) was applied; below the rule multicollinearity is suspected. Tolerances in all cases were all well above the rule of thumb of at least .1 to .2. The overall variance inflation factor was also calculated; the rule of thumb is that VIFs exceeding 4 warrant further investigation, while VIFs exceeding 10 are signs of serious multicollinearity requiring correction (Kutner, et al., 2004). Overall VIF were all in the 1-2 range, well below the rule of thumb of below 4. At a more detailed level, eigenvalues and condition indexes were calculated. Eigenvalues approaching zero represent a problem and condition indexes over 30 indicate high levels of multi-collinearity. Where problematic eigenvalues and condition indexes were found the regressions were re-run using z-scores using the methods recommended by IBM/SPSS. The eigenvalues for the later variables fell close to 0 and the condition index rose to 40 for the final variable (risk). This indicated some potential issues with collinearity. Data were converted to z-
scores and the regressions re-run. Eigenvalues were all over .55 and the highest condition index was 1.8. This appeared to resolve the VIF concerns.

Given the reduced concern over multi-collinearity, linear regression using SPSS 18 was chosen as the means of illustrating the personality-culture relationships. The choice of multiple regression rather than, say, structural equation modeling, was based on the focus of the study: to identify the variables with the highest variance explained; in hierarchical regression the first variable is favoured. The approach was to regress culture values on all the personality variables at the same time. Once the relative sizes of the betas had been identified a hierarchical regression was undertaken with the hypothesized variable entered first followed by the rest of the variables using the largest beta first. The resultant variance explained provided evidence toward the relative strength of each personality-culture relationship.

Hierarchical regression was also used for the mediation analysis. Three tests of mediation were made. Woody (2011) proposed that significant indirect paths indicated mediation; this approach is reported. Baron and Kenny (1986) proposed that a fall in direct effect size would also indicate mediation; this approach was also reported\(^2\). Sobel tests were also undertaken to test whether the goal orientation mediators carry the influence of the personality variables to the value creation preference. A key assumption of Sobel’s test is the assumption of normality. Because Sobel’s test evaluates a given sample on the normal distribution, small sample sizes and skewness of the sampling distribution can be problematic. Thus, the general rule of thumb as

\(^2\) An aspect of the original Baron & Kenny (1986) approach was distinguishing between ‘full’ and ‘partial’ mediation. Mediation was deemed ‘full’ if the direct effect became non-significant in the presence of mediation. This distinction has been largely abandoned by Baron in the latest (2014) version of his well-known mediation website (http://davidakenny.net/cm/mediate.htm) with emphasis now laid on the approach of significant indirect paths. In this study, for completeness sake, the p-values in all Baron & Kenny tests were compared. In all cases, no direct path turned non-significant making all mediations ‘partial’. As the results were consistent they were not reported in the results section.
suggested by MacKinnon et al., (2002) is that a sample size of 1000 is required to detect a small effect, a sample size of 100 is sufficient in detecting a medium effect, and a sample size of 50 is required to detect a large effect. The sample size in this study is 518. The Sobel test was calculated using the Preacher and Leonardelli online calculator\(^3\). Structural Equation Modelling for fit changes as a means of testing for mediation was rejected as the models would be fully identified.

In addition, it was necessary to rule out alternative models that do not involve mediation (Woody, 2011). Three alternate possible roles goal orientation in the personality-value creation relationship were examined beyond the proposed role as mediator. First, that goal orientation is a moderator. This was tested using centred z-scores and hierarchical multiple regression with an interaction variable for each of the four analyses. To resolve the family-wise error rate problem an (unweighted) Bonferroni adjustment was made. The two predictors plus the interaction variable meant dividing the alpha measure of significance by three from .05 to .017 in each case. Second, that personality and not goal orientation is the mediator. This could result if a (dispositional) goal orientation stimulated a personality variable, whose presence would mediate the goal-work context relationship. This was tested by using structural equation modelling to compare the chi-square fits of models that contained all the variables. The all model approach was used because individual models for each CVM quadrant would be fully identified so that chi-square comparisons could not be made. The first model represented goal orientation as the mediator; the second made the personality traits the mediating variables. The final alternative is that mediation does not exist and that the personality and goal orientation are both independent variables that are complementary; however, this latter case is equivalent to the goal-orientation-
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

as-mediator model once the co-variances are allowed for. This was confirmed using structural equation modelling. The results of the tests are recorded in the individual results sections with the exception of the ‘all independent variables’ tests.

Post Hoc Analyses

The logic underlying the CV Model is the four ways value can be created. However, the OCAI Scale describes the elements of the culture that operationalize that path to value creation rather than the form of value creation itself (Figure 4).

 INSERT FIGURE 4 ABOUT HERE

The implication of this distinction for this study was considerable. It was expected that the trait variable that most closely matches the source of value-add would explain the most variance; however, it was also expected that other variables would be correlated with the much broader items in the OCAI scales. As the goal of this study was to find the traits that explain the most variance and not to develop a profile of each CVM culture, it was decided to cut through the clutter that would attend creating hypotheses for all likely positive relationships; thus, the focus was narrowed to developing hypotheses for only the variables that best match the form of value added. As a result only one hypothesis was created for each of the personality-value-add relationships.

That said, to identify the variable that explains most variance, all four of the variables had to be tested, thereby collecting data on an abbreviated profile of personality variables for each CVM culture. With 51 variables associated with entrepreneurship (Gartner, 1988; Rauch & Frese, 2007), the four addressed in this study cannot be claimed to form the definitive profile in any of the cultures. However, it was deemed worthwhile to perform a simple post hoc analysis
using a structural equation model that would capture the broader personality-culture relationships; this illustrates some elements of a broader profile that could emerge from further research. The SE model was created using Amos 18 and SPSS 18 and used maximum likelihood estimation and 90% significance bootstrapping after 2000 samples (Efron & Tibshirani 1994). Fit was measured using chi-square (non-significant), CFI (above .9 minimum), RMSEA (below .08: MacCallum, Browne and Sugawara, 1996, quoted in Kenny, 2012).

**Chapter 4: ‘Create’ Culture Values**

The core assumption of the ‘create’ culture is that effectiveness in the creation of value is best achieved through creativity, invention, and innovation (Cameron et al. 2006; Zammuto & O’Connor, 1992).

In this Chapter, hypotheses of the personality variables associated with the ‘create’ approach to value creation are set out for each path of the postulated, mediated relationship: trait-culture, goal-culture, and trait-goal plus a hypothesis as to mediation. These are then tested using the sample of latent entrepreneurs.

**Relating Personality to Preferences for ‘Create’ Culture Values**

In the following discussion, the focus is strictly on whether a personality trait would fit with the core value creation logic of “create, innovate, and envision the future” (Cameron et al., 2006. p.36) (summarized by Cameron et al. as simply ‘create’).

*Creativity:* The distinguishing feature of highly creative and original people is an interest in the novel (Amabile, 1983). ‘Create’ is focused on value creation through the creation and innovation of novel offerings and processes (Cameron et al., 2007). Following the logic of the
person-environment fit literature a creative person would be able to express their creativity in a ‘create’ environment. In the literature, Martins and Terblanche (2003) found that creativity is, indeed, related to open systems cultures such as ‘create’.

**Need for Affiliation:** Individuals with a high need for affiliation (McClelland, 1961; Murray, 1938) seek a sense of involvement and "belonging" within a social group. ‘Create’ however, focuses on creativity and innovation (Cameron et al., 2007) not on the building of human relationships. This does not preclude the formation of friendships such as those that may arise from working together on a challenge (Turner, Hogg, Turner, & Smith, 1984), but the sense of satisfaction derived from such friendships would be incidental to and derived from the search for creativity; it would not be the focal purpose of ‘create’ culture values.

**Need for power:** People with a high need for power have an imperative to be in charge; they seek to manage others and want things done their way (McClelland, 1961). The ‘create’ logic focuses on creativity and innovation not on the accumulation of power or control over others. This is not to say that an individual may not exercise considerable power in a creative organization, but that the exercise of power is not central to the purpose and may even be counterproductive if it shuts down creativity.

**Risk aversion:** People with a high aversion to risk will seek to avoid unfavourable outcomes (Ariely, Huber, & Wertenbroch, 2005). The ‘create’ focus on creativity (Cameron et al., 2007) has no specified focus on minimizing risk. Indeed, failure is an inevitable accompaniment to attempts at creativity and innovation. Risk aversion may, therefore, inhibit the central purpose of creation.

**Hypothesis 1:** Creativity as a personality trait in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘create’ culture values.
Relating Goal Types to Culture Preferences

There are four goals in contemporary goal theory – MAp, PAp, PAv, and MAv (Elliot & McGregor, 2001). The following discusses whether setting a particular goal would support the achievement of the central logic of ‘create’.

The MAp (Mastery-Approach) goal is a high learning orientation focused on building competence (Dweck, 1986; Elliot & McGregor, 2001). Gong, Huang, and Farh (2009) hypothesized and reported a positive relationship between a high learning orientation and creativity. Their argument was that a high learning orientation encourages competence building, which in turn supports creativity (Amabile & Gryskiewicz, 1987). Given Gong et al. (2009); a high learning orientation (MAp) is likely to be an important contributor to creation (Cameron et al., 2006).

The other three orientations are less congruent with a ‘create’ focus. PAp (Performance-Approach) goals are focused on ongoing competition for resources and status (Elliot & McGregor, 2001). Ongoing competition would be based primarily on existing resources rather than depending on the creation of something new. Additionally, PAp has been shown to be associated with shallow learning: a rehearsal of received knowledge (Elliot & McGregor, 2001). If Gong et al (2009) are correct then a PAp goal may not support the competence building that supports creativity. PAv (Performance-Avoid) is focused on avoiding humiliation through failure in the eyes of others; it focuses away from competence building and onto current performance (Elliot & McGregor, 2001). Not only is PAv counter to the Gong et al (2009) argument but as creativity involves the risk of failure, a PAv goal would appear to work against creativity as a basis for value creation. As to MAv (Mastery-Avoid), Gong et al.’s (2009) work found an association between high learning orientation and creativity through the addition of new
knowledge. MAv is a low learning goal aimed at preserving competence not necessarily adding new competence. A MAv goal is, therefore not expected, to support the imperative to ‘create’.

_Hypothesis 2: Mastery-Approach as a goal orientation in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘create’ culture values_

**Relating Personality Creativity and the MAp Goal Type**

Creativity was the only personality trait hypothesized as having a significant direct relationship with the ‘create’ approach to value creation; hence, only the creativity-MAp relationship is examined here.

_Creativity: Gong et al. (2009) established that to act creatively a person needs skill and competence (see also Amabile & Gryskiewicz, 1987) and that the acquisition of such competence would be supported by a high learning orientation. Following the same logic, a person with a creative personality cannot express their creativity/originality without acquiring skills to make it manifest. The acquisition of those skills would be supported by a high learning orientation. It would, therefore, be expected that creativity and a learning goal would be associated.

_Hypothesis 3: Creativity is positively related to the setting of MAp goals by latent entrepreneurs._
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

Mediation Hypothesis

MAp is the proposed goal mediating the hypothesized creativity – ‘create’ relationship. MAp is the high learning orientation shown (Gong et al. 2009) to be associated with creativity so some mediation can be expected.

_Hypothesis 4: MAp will act as a mediator of the creativity-‘create’ relationship._

‘Create’ Results

The following records the detailed results in the same sequence as the hypotheses were developed.

_INSERT TABLE 1 ABOUT HERE_

Descriptive Statistics

Descriptive statistics and correlations are reported in Table 1. The relevant variables for this Chapter are ‘create’, creativity, and MAp. The creativity of latent entrepreneurs (operationalized as originality) was positively correlated with a preference for a ‘create’ value creation approach \((r=.51; p<.001)\) in support of hypothesis 1. A mastery-approach goal orientation adopted by a latent entrepreneur was positively correlated with a preference for a ‘create’ value creation approach \((r=.49; p<.001)\) in support of hypothesis 2. Finally, originality is positively correlated with the setting of MAp goals by latent entrepreneurs \((r=.43; p<.001)\) in support of hypothesis 3.
Regression of Preference for ‘Create’ on Personality Variables

The ‘create’ approach to value creation was regressed simultaneously on the four personality variables. The model as a whole was significant F(4,513), 55.58, p<.001. Multiple regression found the following. Creativity was found to be positively related β= .37; t = 8.63, p < .001 (hypothesis 1 supported). However, significant relationships were also found for the other three personality variables. Need for affiliation was found to be positively related β= .12; t = 3.07, p < .001. Need for power was found to be positively related β= .12; t = 2.73, p < .05. Risk aversion was negatively related β= -.10; t = -2.55, p <.05. Incremental variance was tested using hierarchical regression with variables entered according to size of the beta value; variance explained for each personality variable indicated that creativity explained 23.6%, need for affiliation 2.6%, need for power 1.3%; and risk tolerance 1.0%. Variance explained for the entire model was 28.5%.

INSERT TABLE 2 ABOUT HERE

Regression of Preference for ‘Create” Culture on Goals

The ‘create’ approach to value creation was regressed on the four goals simultaneously. The model as a whole was significant F(4,513), 51.10, p<.001. Multiple regression found that Mastery-Approach was positively related β= .40; t = 8.14, p < .001 (hypothesis 2 supported). Performance-Approach was also positively related β= .11; t = 2.14, p < .05. Neither of the other goals was significant. Incremental variance was tested using hierarchical regression with variables entered according to size of the beta value; variance explained indicated that MAp explained 21.4% and PAp .7% (Table 2). Variance explained for the entire model was 22.2%.
Multiple Regression of MAp Goal on Personality Traits

The hypothesized MAp goal was regressed on the four personality variables simultaneously. The model as a whole was significant $F(12, 505), 51.79, p<.001$. Creativity was found to be positively related $\beta = .26; t = 5.66, p < .001$ (hypothesis 3 was supported). Total variance explained was 29.1%.

**INSERT TABLE 3 ABOUT HERE**

Mediation

Hierarchical regression was used for the mediation analysis. Three tests of mediation were made (see Table 3). Woody (2011) proposed that significant indirect paths indicated mediation. This was found: ‘Create’ on MAp $\beta = .46; t = 11.86, p < .001$; MAp on creativity $\beta = .43; t = 10.81, p < .001$. Baron and Kenny (1985) proposed that a fall in direct effect size would also indicate mediation; this was found with a drop from $\beta = .49$ to $\beta = .35$. Finally, the Sobel test indicated that transfer of creativity to preference for ‘create’ was facilitated by the mediator MAp $z=7.99; p<.001$. Hypothesis 4 supported. The total variance explained by the mediated model was 31.5%

**INSERT TABLE 4 ABOUT HERE**

Hierarchical multiple regression found that the interaction variable (moderation) failed to explain any variance (see Table 4). The SEM fit comparison of goal orientation as mediator and personality as mediator (in the all variables form) yielded $\chi^2 (26)310.58, p<.001$ for the personality as mediator model and $\chi^2 (19)201.57, p<001$; the chi-square difference at 109 with 7 degrees of freedom difference was significant at 95% probability.
Chapter 5: ‘Compete’ Culture Values

In the ‘Compete’ culture the assumption is that effectiveness in the creation of value is best achieved through intense customer focus and direct competition for market share and market penetration gains (Cameron & Quinn, 1999).

In this Chapter, hypotheses of the dominant personality variables associated with the ‘compete’ approach to value creation are set out for each path of the postulated, mediated relationship: trait-culture, goal-culture, and trait-goal plus a hypothesis as to mediation. These are then tested using the sample of latent entrepreneurs.

Relating Personality Traits and ‘Compete’ Culture Values Preferences

In the following discussion of each personality variable, the focus is strictly on whether that variable would be associated with the core value creation logic of a Market: “compete hard, move fast, and play to win” (Cameron et al., 2006. p.34) (summarized by Cameron et al. as simply ‘compete’).

Need for power: People with a high need for power have a strong desire to control the behaviour of others. McClelland and Burnham (1976) described a desire to wield power as the great motivator of managers without which effective management is impossible. A ‘compete’ culture with its focus on intense competition for market dominance over competitors through market share and (often) internal competition (Cameron et al. 2006) for superior roles in the hierarchy would be a context that could satisfy a preference for need for power.

Need for Affiliation: Individuals with a high need for affiliation (McClelland, 1961; Murray, 1938) need a sense of involvement and "belonging" within a social group. The
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

‘compete’ value creation logic is focused on intense competition, which may run counter to the formation of friendships and belonging; indeed, ‘compete’ cultures often encourage internal competition as a way of avoiding cost-creep from any structural isolation from the marketplace. That said, intense competition may make a group cohere to meet the challenge (Turner, et al., 1984), but the bonding deriving from mutual self-interest or a desire for group approval is probably an incidental outcome or a deliberate tactic (reflective of accepted management practice) not the purpose of the ‘compete’ value creation logic.

Creativity: Individuals having higher levels of creativity tend to be interested in the novel (Amabile, 1983). The ‘compete’ logic is focused on intense and continuing competition for share (Cameron & Quinn, 1999). This focus requires exploiting existing offerings and not necessarily from explorations for novelty. What explorations there are typically involve product extensions and not new creations or blue-sky research (O’Reilly, & Tushman, 2004). This does not mean that ‘compete’ may not introduce new offerings, but that its central objective is maximizing the continuing returns from existing offerings, rather than the fruits of creativity.

Risk Aversion: People with a high aversion to risk will seek to avoid unfavourable outcomes. A ‘compete’ logic is focused on relentless, intense competition (Cameron et al., 2006), which involves the risk of losing. Moreover, competition makes the context difficult to predict as it is subject to the actions of third-parties. This lack of control and risk of failure may make a ‘compete’ approach to value creation a less attractive place for the risk averse.

Hypothesis 5: Need for power as a personality trait in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘compete’ culture values.
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

Relating Goal Types to ‘Compete’ Culture Preferences

There are four goals in goal theory – MAp, PAp, PAv, and MAv (Elliot & McGregor, 2001). The following discusses whether setting a particular goal would support the achievement of the central logic of ‘compete’.

The PAp (Performance-Approach) goal is focused on competition (Elliot & McGregor, 2001) for status. A Market is focused on value creation through the competition for share and market penetration (Cameron et al., 2006). A PAp goal should, therefore, support a preference for ‘compete’ culture values.

The other three orientations are less congruent with the ‘compete’ logic. MAp (Mastery-Approach) goals are focused on self-improvement, personal growth through the mastery of competencies (Elliot & McGregor, 2001). Building competence may support the ability to compete, but would not necessarily directly stimulate a preference for competing against others; a search for competence growth may be only for personal satisfaction (Dweck, 1986). PAv (Performance-Avoid) is focused on avoiding humiliation in the eyes of others (Elliot & McGregor, 2001). Competition involves the risk of failure and thereby potential humiliation. A PAv goal is therefore inconsistent with the aggressive competitive focus of the ‘compete’ model. MAv (Mastery-Avoid) is focused on maintaining self-worth by avoiding a diminishment of competence; this orientation acts against a concern for others and limits its support for a ‘compete’ approach of aggressive competition (Elliot & McGregor, 2001).

Hypothesis 6: Performance-Approach as a goal orientation in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘compete’ culture values
Relating Personality Traits and the PAp Goal Type

Need for power was the only personality trait hypothesized as having a significant direct relationship with the ‘compete’ approach to value creation; hence, only the need for power/PAp relationship is examined here.

*Need for power:* People with a high need for power have an imperative to be in charge (McClelland, 1961). A PAp goal is focused on winning in the struggle for resources and status (Elliot & McGregor, 2001). Winning leads to dominance, which is a facet of power (Goldhamer & Schils, 1939). Setting a PAp goal should support the satisfaction of a need for power in latent entrepreneurs.

*Hypothesis 7:* Need for power is positively related to the setting of PAp goals in latent entrepreneurs

Mediation Hypothesis

PAp is the proposed goal mediating the hypothesized need for power-‘compete’ relationship. A PAp goal is focused on competing for relative status, which leads to dominance over others. As dominance is an aspect of power (Goldhamer & Schils, 1939), mediation is expected.

*Hypothesis 8:* PAp will act as a mediator of the need for power-‘compete’ relationship

‘Compete’ Results

The following records the detailed results in the same sequence as the hypotheses were developed.
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

Descriptive Statistics

Descriptive statistics and correlations are reported in Table 1. The need for power of latent entrepreneurs was positively correlated with a preference for a ‘compete’ value creation approach (r=.42; p<.001) in support of hypothesis 5. A performance-approach goal orientation adopted by a latent entrepreneur was positively correlated with a preference for a ‘compete’ value creation approach (r=.38; p<.001) in support of hypothesis 6. Finally, need for power is positively correlated with the setting of PAp goals by latent entrepreneurs (r=.38; p<.001) in support of hypothesis 7.

Regression of Market on Personality Variables

The ‘compete’ values were regressed simultaneously on the four personality variables. The model as a whole was significant F(4,513), 34.62, p<.001. Multiple regression found the following. Need for power was found to be positively related β= .37; t = 8.26, p < .001(hypothesis 5 supported). Need for affiliation was found to be positively related β=.20; t = 4.69, p < .001. Creativity and risk aversion were not significant. Incremental variance was tested with variables entered according to size of the beta value; variance explained for each personality variable indicated that need for power explained 17.9%, need for affiliation 3.0%. Variance explained for the entire model was 21.1%.

Regression of Market Culture on Performance-Approach Goal

The ‘compete’ variable was regressed on the four goals simultaneously. The model as a whole was significant F(4,513), 21.63, p<.001. Multiple regression found that PAp was significant and positive at β= .22; t = 4.07, p < .001(hypothesis 6 supported). MAp was positively associated at β= .22; t = 4.20, p < .001. Neither of the other goals was significant.
Incremental variance explained by PAp was 11.30%, MAp by 2.80% (Table 2). Total variance explained was 14.4%.

**Multiple Regression of PAp Goal on Personality Traits**

The hypothesized PAp goal was regressed against the four personality variables simultaneously. The model as a whole was significant $F(4, 505), 33.42, p<.001$. Need for power was found to be positively related $\beta= .29; t = 6.40, p < .001$ (hypothesis 7 supported). Total variance explained was 20.7%.

**Mediation**

Hierarchical regression was used for the mediation analysis. Three tests of mediation were made (see Table 3). Woody (2011) proposed that significant indirect paths indicated mediation. This was found. ‘Compete’ on PAp was significant $\beta= .22; t = 4.07, p < .001$. PAp on need for power was significant $\beta= .29; t = 6.40, p < .001$. Baron and Kenny (1985) proposed that a fall in direct effect size would also indicate mediation, this was found with a drop from $\beta= .42$ to $\beta= .35$. Finally, the Sobel test indicated that transfer of creativity to preference for ‘create’ was facilitated by the mediator PAp $z=6.13; p<.001$. Hypothesis 8 was supported. The variance explained of the mediated model was 21.5%.

In the case of alternate models hierarchical multiple regression found that the interaction (moderation) variable failed to explain any variance (see Table 4). The SEM fit comparison of goal orientation as mediator and personality as mediator (in the all variables form) yielded $\chi^2 (26)310.58, p<.001$ for the personality as mediator model and $\chi^2 (19)201.57, p<001$; the chi-square difference at 109 with 7 degrees of freedom difference was significant at 95% probability.
Chapter 6: ‘Control’ Culture Values

In the ‘control’ approach to value creation the core assumption is that effectiveness is best achieved through system efficiency (Cameron et al. 2006; Zammuto & O’Connor, 1992).

In this Chapter, hypotheses of the dominant personality variables associated with the ‘control’ approach to value creation are set out for each path of the postulated, mediated relationship: trait-culture, goal-culture, and trait-goal plus a hypothesis as to mediation. These are then tested using the sample of latent entrepreneurs.

Relating Personality Traits and Preferences for ‘Control’ Culture Values

In the following discussion of each personality variable, the focus is strictly on whether that variable would be associated with the core value creation logic of: “better, cheaper and surer” (Cameron et al., 2006. p.32) (summarized by Cameron et al. as simply ‘control’).

Risk aversion: People with a high aversion to risk will seek to avoid unfavourable outcomes (Ariely, et al., 2005). The ‘control’ approach to value creation includes minimizing the risk of failure (Cameron et al., 2007), making ‘control’ a context that would appear compatible with risk avoidance.

Need for power: People with a high need for power have an imperative to be in charge (McClelland, 1961). The ‘control’ focus on system efficiency and thereby cost minimization (Cameron et al. 2006; Porter, 1985) does not preclude the application of management positional power. Personal ambition to climb the ladder may lead to power-play behaviour but this is not the value creation focus.
**Need for Affiliation:** Individuals with a high need for affiliation (McClelland, 1961; Murray, 1938) seek a sense of involvement and "belonging" within a social group. The ‘control’ approach to value creation is focused on management of the system (Cameron et al., 2006) not on the building of human relationships, though such relationships may smooth the process of control (say, through teamwork). This does not preclude the formation of friendships such as those that may arise from working together on a process or (off-line) socialization with others or the use of teamwork as a means of supporting control, but such would be incidental to or a means of and not the focal purpose of ‘Control’.

**Creativity:** Individuals having high levels of creativity are interested in the novel (Amabile, 1983). A ‘Control’ context is focused on value creation through regulation, stability, and minimized uncertainty; this is incompatible with the constant introduction of novelty.

_Hypothesis 9: Risk aversion as a personality trait in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘control’ culture values._

**Relating Goal Types to ‘Control’ Culture Preferences**

There are four goals in goal theory – MAP, Pap, Pav, and MAV (Elliot & McGregor, 2001). The following discusses whether setting a particular goal would support the achievement of the central logic of ‘control’.

In their 2006 discussion of Hierarchy, Cameron et al. proposed two facets to control. One facet is concerned with control as failure prevention (stability, regulation, and rule-enforcement) the other with greater efficiency (productivity improvements, cost reduction, and process improvement) leading to better performance at lower cost. This has implications for goal orientation. In the business world, the drive to greater efficiency is focused on (improved or
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED...

retained) competitiveness or as a support for avoiding failure. For the purposes of this study,
systems improvements that underpin greater competitiveness are associated with the ‘compete’
approach to value creation (see Cameron et al., 2006); making ‘control’ concerned primarily
with failure prevention.

A PAv (Performance-Avoid) goal is focused on avoiding failure, on not doing worse than
prior performance (Elliot & McGregor, 2001) thereby avoiding public humiliation (in business
terms, losing customer acceptance). With the ‘control’ context focused on value creation through
‘control’ as failure prevention (Cameron et al., 2007) a PAv goal should, therefore, support
‘Control’ culture values.

A PAp (Performance-Approach) goal is focused on doing better than prior performance
(Elliot & McGregor, 2001). Thus a PAp goal is focused on competing for status against others.
The increase in efficiency implied by Cameron et al. (2006) in their discussion of control would
support a PAp goal aimed at competitive advantage. However, once a system is in place, failure
prevention would absorb most resources unless a radical reshaping of the system was proposed;
this would be expensive and (typically) rare. Thus, though a PAp goal support one facet of
control, a PAv goal would support the larger, continuing failure prevention focus.

MAp (mastery-approach) goals aim at growth through learning and are high, challenging,
and embracing of failure as a mode of learning; this is contrary to the control and stability aspect
of systems management in a ‘Control’ culture.

A MAv (Mastery-Avoid) goal is aimed at preserving personal competence, which could be
argued to be an aspect of the stability of a system. Such a goal would therefore serve the risk
avoidance part of the Cameron et al (2006) definition of a ‘Control’ culture but not the
improving of efficiency aspect.
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...
Descriptive Statistics

Descriptive statistics and correlations are reported in Table 1. The relevant variables for this Chapter are ‘control’, risk aversion, and PAv. The risk aversion of latent entrepreneurs was positively correlated with a preference for a ‘control’ value creation approach ($r = .14; p < .001$) in support of hypothesis 9. A performance-avoid goal orientation adopted by a latent entrepreneur was positively correlated with a preference for a ‘control’ value creation approach ($r = .11; p < .005$) in support of hypothesis 10. Finally, risk aversion is positively correlated with the setting of PAv goals by latent entrepreneurs ($r = .20; p < .001$) in support of hypothesis 11.

Regression of Preference for ‘Control’ on Personality Variables

The ‘Control’ construct was regressed simultaneously on the four personality variables. The model as a whole was significant $F(4, 513) = 12.73$, $p < .001$. Multiple regression found the following. Risk aversion was found to be positively related $\beta = .22; t = 4.93$, $p < .001$ (hypothesis 9 supported). Additionally, need for power was found to be positively related $\beta = .19; t = 4.60$, $p < .001$. Need for affiliation was also found to be positively related $\beta = .21; t = 3.90$, $p < .001$. Creativity was non-significant. Incremental variance was tested using hierarchical regression with variables entered according to size of the beta value; variance explained for each personality variable indicated that risk aversion explained 1.9%, need for affiliation 6.9%, and need for power 2.7% (Table 2). Variance explained for the entire model was 11.5%. The low variance explained for risk aversion may possibly be attributed, at least in part, to the sample being entrepreneurship focused while the form of value creation and the wording of the items in the DV are tilted to bureaucracy. This reflects the tension in the ‘control’ logic between true bureaucracies such as government and the competitive nature of system management in a private
sector business. The higher variance explained for need for affiliation may reflect in part the low variance explained by risk aversion.

**Regression of Preference for ‘Control’ Culture on Performance-Avoid Goal**

‘Control’ was regressed on the four goals simultaneously. The model as a whole was significant F(4, 513), 9.15, p<.001. Multiple regression of all the orientations simultaneously found the following. PA\text{v} was not significant so did not support hypothesis 10. Of the other orientations only PAp was positively related β= .12; t = 2.23, p < .05. This failure to support the hypothesis may result, at least in part, from the known correlation amongst the goal orientations (Elliot & McGregor, 2001) and the correlations with this sample found in Table 1. Variance explained for PA\text{v} was 1% and for PAp 4%.

In view of the failed hypothesis, ‘control’ was regressed against PA\text{v} alone; the result was significant at β= .11; t = 2.73, p < .05 which would imply that hypothesis 10 was supported. This shift from non-significance to significance may reflect the correlated nature of the goal orientation variables predicted and confirmed by Elliot and McGregor (2001).

**Multiple Regression of PA\text{v} Goal on Personality Traits**

The hypothesized PA\text{v} goal was regressed against the four personality variables simultaneously. The model as a whole was significant F(4, 505), 34.42, p<.001. Risk aversion was found to be positively related β= .17; t = 3.45, p < .001 (hypothesis 11 supported). No other relationship was significant. Total variance explained was 20.7%.
**Mediation**

Hierarchical regression was used to test for mediation. Three tests of mediation were made (see Table 3). Woody (2011) proposed that significant indirect paths indicated mediation. This was found: ‘control’ on PAv $\beta = .11; t = 2.47, p < .05$; PAv on risk aversion $\beta = .17; t = 3.45, p < .001$. Hypothesis 12 supported. Testing using Baron and Kenny (1985) there was a drop in direct effect size from $\beta = .14$ to $\beta = .12$. Finally, the Sobel test indicated that transfer of risk aversion to preference for ‘control’ was facilitated by the mediator PAv $z = 2.1, p = .03$ Hypothesis 12 was again supported. However, the effect sizes are small and the Sobel test results may be distorted by the sample size of 518 versus the rule of thumb of 1,000 for small effect sizes (MacKinnon, 2002). Total variance explained by the mediated model was 2.3%.

The tests of alternate models were made. Hierarchical multiple regression found that the interaction variable failed to explain any variance (see Table 4). The SEM fit comparison of goal orientation as mediator and personality as mediator (in the all variables form) yielded $\chi^2 (26) 310.58, p < .001$ for the personality as mediator model and $\chi^2 (19) 201.57, p < .001$; the chi-square difference at 109 with 7 degrees of freedom difference was significant at 95% probability.

**Chapter 7: ‘Collaborate’ Culture Values**

The ‘Collaborate’ approach to value creation has the core assumption that effectiveness is best achieved through the application of empowered human competence to problems (Cameron & Quinn, 1999).

In this Chapter, hypotheses of the dominant personality variables associated with the ‘collaborate’ approach to value creation are set out for each path of the postulated, mediated
relationship: trait-culture, goal-culture, and trait-goal plus a hypothesis as to mediation. These are then tested using the sample of latent entrepreneurs.

**Relating Personality Traits and Preferences for ‘Collaborate’ Culture Values**

In the following discussion of each personality variable, the focus is strictly on whether that variable would be best associated with the core value creation logic of: “human development, human empowerment, human commitment” (Cameron et al., 2006. p.38) (summarized by Cameron et al. as simply ‘collaborate’).

**Need for Affiliation:** Individuals with a high need for affiliation (McClelland, 1961; Murray, 1938) seek a sense of involvement and "belonging" within a social group; they desire warm interpersonal relationships and recognition from those with whom they have regular contact (e.g., peer acceptance). The ‘Collaborate’ approach to value creation is focused on application of empowered human competence to problems (Cameron et al., 2006) and the creation of group cohesion (Cameron et al., 2006). This focus on group cohesion in order to collaborate effectively may satisfy a need to belong.

**Creativity:** Individuals having high levels of creativity tend to be characterized as divergent thinkers (Costa & McCrae, 1992) interested in novelty (Amabile, 1983). The ‘Collaborate’ logic is focused on value creation through the application of empowered human competence to problems (Cameron & Quinn, 1999). The resolution of problems does not necessarily involve creativity or originality though it does not exclude it; the application of structured, established solutions may be sufficient.

**Risk aversion:** People with a high aversion to risk will seek to avoid unfavourable outcomes (Ariely, Huber, & Wertenbroch, 2005). The ‘Collaborate’ approach to value creation is
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

focused on the application of empowered human competence to problems (Cameron & Quinn, 1999) with no specified focus on minimizing risk.

Need for power: People with a high need for power have an imperative to be in charge; they seek to manage others and want things done their way (McClelland, 1961). The ‘Collaborate’ approach to value creation is focused on application of empowered human competence to problems (Cameron & Quinn, 1999) not on the accumulation of power or control over others; indeed, the application of power may restrict empowerment and limit problem resolution.

Hypothesis 13: Need for affiliation as a personality trait in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘collaborate’ culture values.

Relating Goal Types to ‘Collaborate’ Culture Preferences

There are four goals in goal theory – MAp, PAp, PAv, and MAv (Elliot & McGregor, 2001). The following discusses whether setting a particular goal would support the achievement of the central logic ‘Collaborate’.

The two learning goals focus on human development: Mastery-Approach and Mastery-Avoid. A MAp goal is focused on personal growth, which would be appropriate to a context (‘Collaborate’) that seeks to create value through human development (Cameron et al. 2006). A MAv goal seeks to avoid a diminishment of existing competence. On the surface the MAv goal could relate to a ‘Collaborate’ context as each member needs to justify continued inclusion in the collaborative by retaining competence. However, ‘development’ is a core aspect of the
‘Collaborate’ culture as defined by Cameron et al., (2006) rather than simply holding on to competence, which may make a MAv goal insufficient.

Of the two performance goals, a PAp goal would focus on competition. An individual may feel in competition with others for recognition, but explicit competitive goals may diminish the effectiveness of the collaboration and cohesion that is central to a ‘Collaborate’ culture (Cameron et al., 2006) and is needed to resolve complex problems. PAv goals focus on avoiding humiliation in the eyes of others. Such avoidant behaviour may prevent the full application of human competence to a problem.

_Hypothesis 14: Mastery-Approach as a goal orientation in a latent founder is positively related to a preference for an organization that is characterized by ‘collaborate’ culture values_

**Relating Personality Traits and the MAp Goal Type**

Need for affiliation was the only personality trait hypothesized as having a significant direct relationship with the ‘collaborate’ approach to value creation; hence, only the need for affiliation/MAp relationship is examined here.

_Need for affiliation: Individuals with a high need for affiliation need a sense of involvement and "belonging", warm interpersonal relationships, social recognition and acceptance (McClelland, 1961; Murray, 1938). Setting a MAp goal to build personal competence would increase a person’s worth in the eyes of others; this high competence may facilitate group acceptance and recognition and, thereby help satisfy a need for affiliation. There is almost no empirical research on the link between learning and need for affiliation; however, studies in education have pointed to failures to satisfy student needs for affiliation as a de-motivator for virtual learning (Timmis & Cook, 2004)
Hypothesis 15: Need for affiliation is positively related to the setting of MAp goals by latent entrepreneurs

Mediation Hypothesis

MAp is the proposed goal mediating the hypothesized need for affiliation-‘Collaborate’ relationship. Need for affiliation has been shown to be associated with learning behaviour in a communal setting (Klein, & Pridemore, 1992) so some mediation can be expected.

Hypothesis 16: MAp will act as a mediator of the need for affiliation-‘collaborate’ relationship.

‘Collaborate’ Results

The following records the detailed results in the same sequence as the hypotheses were developed.

Descriptive Statistics

Descriptive statistics and correlations are reported in Table 1. The relevant variables for this Chapter are ‘collaborate’, need for affiliation, and MAp. The need for affiliation of latent entrepreneurs was positively correlated with a preference for a ‘collaborate’ value creation approach (r=.28; p<.001) in support of hypothesis 13. A mastery-approach goal orientation adopted by a latent entrepreneur was positively correlated with a preference for a ‘collaborate’ value creation approach (r=.31; p<.001) in support of hypothesis 14. Finally, need for affiliation is positively correlated with the setting of MAp goals by latent entrepreneurs (r=.41; p<.001) in support of hypothesis 15.
Regression of Preference for ‘Collaborate’ on Personality Variables

The ‘Collaborate’ logic was regressed simultaneously on the four personality variables. The model as a whole was significant F(4,513), 15.75, p<.001. Multiple regression found the following. Need for affiliation was found to be positively related \( \beta = .23; t = 5.15, p < .001 \) (hypothesis 13 supported). However, significant relationships were also found for two of the other three personality variables. Creativity was found to be positively related \( \beta = .19; t = 3.85, p < .001 \). Risk aversion was found to be positively related \( \beta = .09; t = 2.16, p < .05 \). Need for power was not significant. Incremental variance was tested using hierarchical regression with variables entered according to size of the beta value; variance explained for each personality variable indicated that need for affiliation explained 7.7%, creativity 2.4%, risk aversion 1.0%. Variance explained for the entire model was 10.9%.

Regression of Preference for ‘Collaborate’ on Goal Orientation

‘Collaborate’ was regressed on the four goals simultaneously. The model as a whole was significant F(4,513), 18.09, p<.001. Multiple regression found the following. MAp was \( \beta = .21; t = 3.95, p < .001 \) (hypothesis 14 supported). PAp was \( \beta = .19; t = 3.56, p < .001 \). Neither PAv nor MAv were significant. Incremental variance was tested using hierarchical regression with variables entered according to size of the beta value; variance explained for each personality variable indicated that MAp explained 9.9% and PAp 2.3% (Table 2). Total variance explained was 12.1%.

Multiple Regression of MAp Goal on Personality Traits

The hypothesized MAp goal was regressed against the four personality variables simultaneously. The model as a whole was significant F(1, 516), 54.20, p<.001. Need for
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

affiliation was found to be positively related $\beta= .26; t = 6.36, p < .001$ (hypothesis 15 supported). Variance explained was 15.5%

Mediation

Hierarchical regression was used to test for mediation. Three tests of mediation were made (see Table 3). Woody (2011) proposed that significant indirect paths indicated mediation. This was found: ‘Collaborate’ on MAp $\beta= .39; t = 9.72, p < .001$. MAp on need for affiliation $\beta= .37; t = 8.92, p < .001$. Baron & Kenny (1985) proposed that a fall in direct effect size would also indicate mediation, this was found with a drop from $\beta= .32$ to $\beta= .24$. Finally, the Sobel test indicated that transfer of need for affiliation to preference for ‘collaborate’ was facilitated by the mediator MAp $z=5.98, p=.02$. Hypothesis 16 supported. Total variance explained by the mediated model 12.5%

Hierarchical multiple regression found that the interaction variable failed to explain any variance (see Table 4). The SEM fit comparison of goal orientation as mediator and personality as mediator (in the all variables form) yielded $\chi^2 (26)310.58, p<.001$ for the personality as mediator model and $\chi^2 (19)201.57, p<001$ for goal orientation as mediator; the chi-square difference at 109 with 7 degrees of freedom difference was significant at 95% probability.

Post Hoc Test

A post hoc test was performed to illustrate the relationships amongst all the variables together constituting an abbreviated profile for each culture. The test involved the construction of an SE model (Figure 5) based on the results of the regression tests. The SE model was an excellent fit to the data $\chi^2 1.13 (6)$ n.s. RMSEA .00
As expected, the strongest relationships between personality variables and cultures are those hypothesized in the individual studies (with the exception of risk and Hierarchy). Examination of the model indicates that Adhocracy is linked to originality (creating something new) manifested through teamwork (need for affiliation), tolerance for risk and ambition (need for power). Market, meanwhile, requires the dominance of competitors (need for power) and the ability to act as a team (need for affiliation). Hierarchies are about system control (risk aversion), working in a structured community (need for affiliation) and being part of a rigid hierarchy of power (need for power). Finally, clan cultures are about collaboration (need for affiliation) and solving problems (originality) under the banner of a group (risk aversion). These profiles are by no means comprehensive, but they are indicative of what further research may find both with latent entrepreneurs and other classes of entrepreneur. Such research may find stability between classes or that the profiles shift as the individual progresses through the various levels of entrepreneurship.

Chapter 8: Discussion & Further Research

This study had two goals: the first was to assess whether the personality traits of latent entrepreneurs are associated with different value creation preferences that theoretically should be a good match for them. This goal was achieved in that significant, positive relationships were found linking different hypothesized personality traits to different preferences for each of the value creation modes of the CVM with the possible exception of ‘control’.
The results in terms of variance explained were mixed, ranging from a high of 22.6% for the originality-‘create’ relationship and down to 1.9% for the risk aversion-‘control’ relationship. The reasons for this variation in result may lie in the sample, the scales selected and the terms of the CVM descriptions; refining these may increase the level of variance explained and would be the starting point of further research.

The second goal was to assess whether goal orientation may act as a mediator of the personality-value creation preference relationships as suggested by culture theorists. This goal was achieved in that MAp, PAp, and (perhaps) PAv were found to mediate the identified personality-value creation relationships. Additionally, tests were conducted that confirmed the role of goal orientation as a mediator against three other possible relationships: personality traits as the mediator and goal orientation as the independent variable; a no-mediator model with both goal orientation and personality traits as independent variables, and goal orientation as a moderator not a mediator. In all four cases, the hypothesized goal orientation as mediator was the best fit. This study represents one of the first efforts to link personality to venture characteristics and may have both theoretical and practical implications for entrepreneurship research.

**Theoretical Implications**

The first implication for theory of the present study derives from its focus on the relationship between personality and the nature of the venture the latent entrepreneur would prefer. This approach represents a break with the traditional approaches of personality research in entrepreneurship. The primary foci of personality research to date have been to compare entrepreneurs with non-entrepreneurs in an attempt to distinguish the entrepreneurial personality, to identify traits supportive of success, and to isolate traits associated with starting a business per
The relationship between personality traits, goal orientation, and preferred ... 

*se* (Rauch & Frese, 2007: meta-analysis; Rauch & Frese, 2007: chapter). Traditional personality research in entrepreneurship has been heavily criticised. The first criticism accused researchers of simply creating a list of variables (51 to date: Gartner, 1988; Rauch & Frese, 2007: meta-analysis); the implication being that if every trait was significant then no particular trait distinguished the entrepreneur. So effective was Gartner’s (1988) case that the research focus in entrepreneurship shifted away from the dominance of personality to behaviour (e.g., Kouriloff, 2000; Stevenson & Jarillo, 1990) and later cognition (e.g. Baron, 2006; Shane, 2003). But criticism continued. By 2000, Krueger et al. were suggesting that personality research be abandoned based on its low predictive ability attributed, in part, to the distal nature of the relationships; they pointed to variance explained typically less than 10% versus say intentions (a proximal variable) as a predictor of becoming an entrepreneur at over 30%. This criticism (low variance explained) was supported by Frese and Gielnik (2014) in their summary table of meta-analytic results, which found the highest correlation of a trait with entrepreneurship was .38 for self-efficacy implying variance explained of about 14%.

Introducing the venture as the dependent variable may open a new and possibly more fertile line of research for personality researchers. As the results of the current study indicate, correlations of traits and goals with CVM culture are higher than those reported by Frese and Gielnik (2014) in meta-analyses of traditional studies and imply variance explained as high as 30% (‘create’ mediated model) so addressing Krueger et al.’s (2000) concerns. Additionally, the tendency for a single variable to emerge counters Gartner’s (1988) concerns of excessive numbers of variables. Finally, focusing on the venture may permit researchers to address a new range of questions. For example, there are numerous vehicles for entering entrepreneurship (e.g., high tech start-ups, franchises, self-employment, or entering a mature market as a head-to-head
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

competitor) each of which has a different value creation approach. By focusing only on the traits that support the leap to entrepreneurship per se, traditional personality research makes an implicit assumption that the same mix of personality variables apply to all decisions to enter entrepreneurship regardless of venture. Yet, this study indicates that different personality variables may apply to different degrees to different value creation choices; this is deserving of further research. Additionally, almost all the prior work on entrepreneurial personality, success, and intentions may be re-examined in the light of the specific venture involved, for example research on the value of planning (Frese & Gielnik, 2014). To-date only one study has been found in the entrepreneurship literature that attempts to link personality to a particular type of venture: high tech start-ups (Rogers, 1991), making this present study a pioneering contribution to personality research in entrepreneurship.

The second contribution to theory development in entrepreneurship made by this study is in the field of opportunity identification. Personality has been allocated only a minor role in research into opportunity identification. In Ardichvili, et al.’s (2003) “first cut” at building a theory of opportunity identification” (p. 121), they gave personality a role in entrepreneurial awareness (Ray & Cardozo, 1996; Kirzner, 1973) but they also thought “The relationship between opportunity identification and personality traits other than creativity [Hills, Lumpkin, & Singh, 1997] and optimism [Krueger & Dickson, 1994; Krueger & Brazeal, 1994] seems to be weak” (p. 116). The identification of person-value add relationships in a segment of the population (latent entrepreneurs) that conducts active and passive searches for opportunity (Ardichvili, et al., 2003) raises the question, “does the existence of an opportunity to select or create that corresponds to the latent entrepreneur’s personality, influence the decision to become an entrepreneur at all?” Focusing on the relationship between personality and the types of
opportunity is then an area for further research that links both the opportunity identification field and in the more general field of whether someone would elect to become an entrepreneur.

The third possible contribution to theory development is in typology creation. Multiple attempts were made in the late-1980s and 1990s to create typologies of entrepreneurs (Hisrich et al., 2007). By focusing on the paths to value creation, it could be argued that a typology/taxonomy of entrepreneurs is hinted at: visionary-creatives, power-seeking competitors, systems-focused operators, and collaborative problem-solvers each of which has a dominant personality trait and can be associated with a goal orientation (attitude to success) as well as possibly other individual differences. Hisrich et al. (2007) issued a call for new typologies (taxonomies) for reasons of parsimony, the stimulation of theory development, replication of research findings, and as aids to analysis and the clustering of individual differences. All this represents opportunities for further research.

The fourth contribution to theory development in entrepreneurship is in deepening the insight into the role of achievement motivation. Achievement motivation (as need for achievement) has been seen as a driving force in the entrepreneurship literature since the start of formal research (Murray, 1938; McClelland, 1961). The present study introduced the contemporary 2x2 model of goal orientation to entrepreneurship research (for what a literature search indicated is the first time). By showing that a different goal orientation may act as a mediator of different personality-value creation relationships, the study implies that Schein (2004) and Schneider’s (1995) combined postulate that goal orientation mediates the relationship between personality and venture characteristics may be correct. The may shed considerable light on the founding process and the impact of personality and attitudes on the nature of a new
foundation. This has implications for both the entrepreneurship literature and the literature on culture formation.

The fifth contribution of this study to entrepreneurship research is its use of a sample of latent entrepreneurs. Research interest in latent entrepreneurs has been growing in recent years with work being done in Europe following data gathering by the European Commission (e.g., Blanchflower, Oswald, & Stutzer, 2001; Flash Barometer, 2004; Grilo & Thurik, 2005). The Commission, interested primarily in economic development across the European Community, uses the proportion of latent entrepreneurs in the population as a measure of “entrepreneurial spirit” (e.g., Blanchflower, Oswald, & Stutzer, 2001). This study is the first to address the preferences of this segment for different types of venture despite the fact that latent entrepreneurs make all the first-time decisions on which kinds of business ventures to start. This is a contribution to the entrepreneurship literature. There is considerable room for further research using latent entrepreneurs. For example, respondents in this study were asked their preference for being a single self-employed person versus building a business with employees. The split was almost even with 48.7% wanting to have a business with employees and 51.3% wanting to be simply self-employed with no staffing responsibilities. It is likely that there are differences between these two groups. As yet no research has been published that draws a distinction between these groups and refines the sample of latent entrepreneurs. Latent entrepreneurship is an area for considerable further research.

**Practical Implications**

Practical implications can be found in government policy, self-selection into entrepreneurship, entrepreneurship education, and management practice.
Government interest in entrepreneurship centres on job creation, economic growth, and national competitiveness. For half a century, the focus was on creating the conditions for people to become entrepreneurs (Minniti, 2008), which led to, for example, considerable investment in entrepreneurship education, programs such as small business loans, and political focus on supporting business creators. This broad-ranging approach may have had successes but it was not guaranteed to meet policy goals. Indeed, Shane (2008) showed that simply encouraging entrepreneurship, a lot of which is of low productivity in easy to enter sectors, could suppress growth. More recently government interest has started to focus on high-growth firms; the so-called ‘gazelles’ (Birch et al., 1995). Gazelles are firms that grow at over 20% per annum (Birch et al., 1995; Ahmad, 2006). The problem with a definition based on growth is that gazelles, which represent only about 4% of all businesses, can appear in almost any sector of the economy using almost any mode of value creation and not just the (often assumed) high-tech sector (Henrekson, & Johansson, 2008). If there are drivers that create high growth they may well be found by examining what drives growth in different business types of business. One of the drivers of growth is the entrepreneur and his or her personality and motivation; and, possibly her or his training in the specifics of their venture (Martin, McNally, & Kay, 2013: meta-analysis).

This study, by breaking with the tradition of personality research by shifting focus from the entrepreneur to the entrepreneur in the context of what he or she creates, may be a first step along the road to understanding how personality may affect entrepreneurial growth by type of business.

Self-selection into different types of business is virtually unstudied in the entrepreneurship literature (Rogers, 1991). Yet, selection into management and even specific types of firm is common in human resources practice (Hollenbeck, Gerhart, & Wright, 1997; Gatewood, Feild,
& Barrick, 2010; Schmit, & Ryan, 1993). What tools there are in entrepreneurship tend to be non-validated scales found on the internet (e.g., Forbes has a questionnaire at http://www.forbes.com/fdc/welcome_mjx.shtml). By moving research from the general to the particulars of specific types of opportunity, it should be possible to develop equivalent scales and tools to those used in management; tools that have theoretical validity. This study may be a first step in that direction.

A deeper understanding of the link between personality and types of value creation has implications for entrepreneurship education. Personality and its relationship to entrepreneurship has been a weakness in entrepreneurship education. Yet there is a strong argument for its inclusion based, at a minimum, on the Delphic ‘Know Thyself’ logic (Thales of Miletus c. 624–c. 546 BCE and others). However, the generic list of fifty-one personality traits (Rauch & Frese, 2001) is not easy to teach. This article points a way forward. The relationship, linking traits, goals, and cultures, and showing that specific traits explain more variance than others dramatically simplifies teaching the role of personality. Scales, including goal orientation dominance scales (van Yperen, 2006), are available that would allow students to assess themselves and their dispositions. This opens the way for discussions of the mutability of goals over time, the impact of founder goals and traits on the emergence of culture, and employee or partner selection.

The deeper understanding of ‘what’ the entrepreneur creates and the value creation paths available could impact curriculum design in entrepreneurship. Currently, entrepreneurship courses tend to focus on the generic aspects of the entrepreneurial process such as planning (Honig & Karlsson, 2004) or raising venture capital. Understanding the personality-opportunity relationship offers the chance to re-focus the generic around four classes of entrepreneurship: the
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

four value creation modes representing the four routes to entrepreneurial success. Entering a mature competitive market with a ‘better mousetrap’ (‘compete’ culture) is very different emotionally (operational focus) and on most business dimensions (e.g., plan and strategy formulation, business structure, competitive logic, competitive intensity, funding sourcing, working capital accumulation and preservation) from driving a vision in an emergent context. Addressing the generic issues in the context of each of the value-creation relationships offers the opportunity of showing how a traditional subject like planning (causal and effectuation) can differ by context. It raises the opportunity to introduce topics rarely discussed in entrepreneurship courses: individual contracting and franchising. Additionally, it raises the opportunity of focused discussion, a wider range of cases as well as attracting a wider range of students who can see value in something more multi-focused

Chapter 9: Limitations

The classic potential limitation of this study results from its self-report nature. Steps were taken to reduce the potential impact of this issue; these were noted in the Methodology section. They included issues of item misunderstanding, common method variance, and social desirability bias. Tests were undertaken that indicate that these issues were mitigated.

The bigger limitation of this study is the selection of predictors and scales. Specifically, it could be argued that the correlations of creativity and ‘create’ are a result of conceptual overlap. Examination of the items mitigates this concern to some degree. The creativity measure is tilted toward originality and imagination. The ‘create’ items are focused on entrepreneurship, innovation, product leadership, and risk taking. Additionally, the items are divided over six sub-scales. This apparent overlap needs further examination.
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

Given this concern about conceptual overlap, the very attempt to mitigate the overlap problem by focusing on originality yields a further potential limitation. Creativity has at least two facets: originality being the ability to imagine novel responses to a problem and appropriateness being the value of the ideas with the context (Runco & Charles, 1993). Ideas can be novel but also bizarre. This under representation in the scale items of the ability to generate practical ideas may affect the result and needs to the tested.

Second, the power scale was tilted to dominance (one facet of power) and should also be tested against other possible scales.

The generalized risk aversion scale may not capture the full richness of ‘control’ in a work context (other possible facets include predictability, safety, security, certainty of outcome) very effectively. This implies a need to find or create new personality scales for this quadrant.

Finally, the CVM was created with large institutions in mind not entrepreneurial ventures. For example, the ‘control’ quadrant scale items are tilted to bureaucracy (a term that carries cultural baggage) rather than the systems-focused business organizations such as Wal-Mart, which uses ‘control’ as a vehicle to lower costs and attain competitive advantage. The ‘collaborative’ mode lacks an economic focus and can be applied in part across the other three. Indeed, ‘collaborative’ is composed of the recommendations pursued by the Human Relations Movement (Bruce & Nylan, 2011) and it is heavily rooted in the positive aspects of Japanese Management (Ouchi, 1981) ignoring the more negative cultural aspects of that approach (Meek, 2004). This may be addressed by rethinking the whole CVM scale to focus more on the value add underpinnings than the cultural aspect; the result would be an equivalent scale for the entrepreneurial context. As an example, in such research the ‘collaborative’ mode would acquire an economic focus akin to, for example, a consulting company, where the value add is the (paid)
delivery of ‘competence’, a focus which may or may not require collaboration by a team (though it usually does). Such a firm meets all the criteria of dependence on human assets and collaborative behaviour but is also driven by an underlying economic model and may include control issues such as peer evaluation and the subsequent pressure. Incidentally, such a shift may imply a different personality variable such a need for affirmation (of competence), which would link to an MAv orientation. Research needs to the done to rethink these scales and how they relate to entrepreneurship.

Finally, the use of variance explained as evidence toward the relative impact of each independent variable on the dependent has been criticized as it may be impacted by correlations between the independent variables (Nathans, Oswald, & Nimon, 2012).

**Concluding Statement**

Over the life of a dissertation, the general literature marches on and may confirm the student’s ideas of leave him or her behind. Fortunately, the theme of this study, started in 2009, has become more not less relevant to the emerging direction of psychology-based research in entrepreneurship.

In 2007, Hisrich et al. documented the decline of psychology as a field of research in entrepreneurship and issued a call for a revival of interest. This study was originally stimulated by a desire to answer that call. The study’s insight was to propose supplementing personality research’s focus on the entrepreneur with an additional focus on the type of venture an individual may create; to shift the focus from ‘whether’ a person would be an entrepreneur or be successful to ‘what’ that person may create. This ‘first cut’ study has shown that relationships do exist between personality and value creation preferences in the pool of would-be entrepreneurs that
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED …

may be worth exploring further; this opens new avenues for research into the role of psychology in entrepreneurship and may be an answer to the Hisrich et al. (2007) call.

However, since work on this study commenced, a new stream of psychological research has emerged that attempts to link psychology to the micro-foundations of competitive advantage (Ployhart. 2012). This new stream has implications for the study of entrepreneurship (Rauch & Frese, 2012). Rauch and Frese (2012), commenting on Ployhart (2012), proposed that linking psychology and competitive advantage would develop deeper insight if studied in the entrepreneurship context. They cited entrepreneurship’s concern with the instant of business creation, which involves finding initial competitive advantage to break into or disrupt markets and entrepreneurship’s long concern with the role of personality. This study may have anticipated this shift in the psychology literature and the possible role of entrepreneurship research. It is well established that culture and its underlying source of value-add is a source of competitive advantage (Cameron et al., 2006; Schein, 2006). By linking potential founder personality and goal selection to value-add/culture preferences it may have contributed to the psychological study of the micro-foundations of business success from roots in the entrepreneurship context as Rauch and Frese (2012) suggested.
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THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...


THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...


THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...


THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...


The relationship between personality traits, goal orientation, and preferred...


THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...


Available online at [http://pareonline.net/pdf/v17n9.pdf](http://pareonline.net/pdf/v17n9.pdf)


THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...


THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...


Shane, S. (2008). The start-ups we don't need: Scott Shane examines a dangerous myth that encourages the creation of too many low-productivity businesses. It's time to change our approach. *The American, 2*(6).
The relationship between personality traits, goal orientation, and preferred... 


THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...


Figures and Figures

Figure 1: Diagrammatic Representation of the Mediated Relationship
Figure 2: Diagrammatic Representation of the Competing Values Model

Following Cameron et al. (2006)
Figure 3: Diagrammatic Representation of Goal Orientation Theory

Mastery Orientation  
(Intrapersonal norms of success)  

Performance Orientation  
(Interpersonal norms of success)  

Approach  
(Strive to succeed)  

MAp  
PAp

Avoid  
(Strive not to fail)  

MAv  
PAv

Following: Elliot & McGregor, 2001
Figure 4: Diagrammatic Representation of the Nature of the Organizational Culture Assessment Instrument (OCAI): A Strategic Choice of How to Add Value versus the Cultural Elements that Operationalize that Approach
Figure 5: Structural Equation Model of the Relationships between the Personality Variables and the Four Cultures of the Competing Values Model

Chi-Square = 1.13, df = 4, p = .89. CFI = 1.00. RMSEA = .00
All paths illustrated are significant

N=514
Table 1: Descriptive Statistics, Intercorrelations and Reliabilities (on Diagonal)

<table>
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<th>Std. Dev.</th>
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<th>4</th>
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<th>6</th>
<th>7</th>
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<th>10</th>
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<tr>
<td>NPow</td>
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<td>1.01</td>
<td>.49** .38** .76</td>
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<td>-.22** .13** -.21** .76</td>
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<td>Performance-Avoid</td>
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<td>Mastery-Avoid</td>
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<td>Create</td>
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<td>.51** .33** .37** -.23** .49** .29** -.08 .10* .85</td>
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<td>Compete</td>
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<td>.83</td>
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<td>.13** .26** .21** .14** .17** .22** .11* .19** .29** .59** .31** .75</td>
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N=518

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Scale reliabilities on diagonal
Table 2: Percentage Variance Explained by Goal Orientation for Each Value Creation Approach

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<tr>
<th>Value Creation</th>
<th>MAp</th>
<th>PAp</th>
<th>MAv</th>
<th>PAv</th>
</tr>
</thead>
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<tr>
<td>Create</td>
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<td>Compete</td>
<td>9.5</td>
<td>11.3</td>
<td>2.7</td>
<td>0</td>
</tr>
<tr>
<td>Collaborate</td>
<td>9.9</td>
<td>8</td>
<td>2.3</td>
<td>0</td>
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<tr>
<td>Control</td>
<td>2.8</td>
<td>4.9</td>
<td>3.8</td>
<td>1.2</td>
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</table>

N=518

MAp=Mastery Approach
PAp=Performance Approach
MAv=Mastery-Avoid
PAv=Performance Avoid
Table 3 – List of Variance Explained By Each Mediated Model

<table>
<thead>
<tr>
<th>Value</th>
<th>Variance Explained</th>
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</thead>
<tbody>
<tr>
<td>Create</td>
<td>30.8</td>
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<tr>
<td>Compete</td>
<td>21.5</td>
</tr>
<tr>
<td>Control</td>
<td>2.6</td>
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<tr>
<td>Collaborate</td>
<td>12.5</td>
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Table 4: Moderation Test Statistics: Centred z-Statistics

<table>
<thead>
<tr>
<th></th>
<th>β</th>
<th>Δ VE %</th>
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</thead>
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<tr>
<td><strong>Create</strong></td>
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<tr>
<td>Mastery-Approach</td>
<td>.32***</td>
<td>31</td>
</tr>
<tr>
<td>Creativity</td>
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<td>31</td>
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<tr>
<td>Interaction</td>
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<td>0</td>
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<tr>
<td><strong>Compete</strong></td>
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<td></td>
</tr>
<tr>
<td>Performance-Avoid</td>
<td>.21***</td>
<td>22</td>
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<tr>
<td>NPow</td>
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<tr>
<td>Interaction</td>
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<td><strong>Control</strong></td>
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<td>Risk Aversion</td>
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<tr>
<td>Need for Affiliation</td>
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<tr>
<td>Interaction</td>
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</table>

***p<.001
**p<.01
*p<.05

Δ VE % = Change in variance explained as percent
Table 5: Summary of Hypotheses, Results, and Variance Explained

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Variance Explained</th>
</tr>
</thead>
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<td><strong>Create</strong></td>
<td></td>
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<tr>
<td>1 Originality as a personality trait in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘create’ culture values</td>
<td>Supported 23.6</td>
</tr>
<tr>
<td>2 Mastery-Approach as a goal orientation in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘create’ culture values</td>
<td>Supported 21.4</td>
</tr>
<tr>
<td>3 Originality is positively related to the setting of MAp goals by latent entrepreneurs.</td>
<td>Supported 29.1</td>
</tr>
<tr>
<td>4 MAp will act as a mediator of the originality-‘create’ relationship</td>
<td>Supported 31.5</td>
</tr>
<tr>
<td><strong>Compete</strong></td>
<td></td>
</tr>
<tr>
<td>5 Need for power as a personality trait in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘compete’ culture values</td>
<td>Supported 17.9</td>
</tr>
<tr>
<td>6 Performance-Approach as a goal orientation in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘compete’ culture values</td>
<td>Supported 11.3</td>
</tr>
<tr>
<td>7 Need for power is positively related to the setting of PAp goals in latent entrepreneurs</td>
<td>Supported 20.7</td>
</tr>
<tr>
<td>8 PAp will act as a mediator of the need for power-‘compete’ relationship</td>
<td>Supported 21.5</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td></td>
</tr>
<tr>
<td>9 Risk aversion as a personality trait in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘control’ culture values.</td>
<td>Supported 1.9</td>
</tr>
<tr>
<td>10 Performance-Avoid as a goal orientation in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘control’ culture values</td>
<td>Supported 4</td>
</tr>
<tr>
<td>11 Risk aversion is positively related to the setting of PAv goals in latent entrepreneurs</td>
<td>Supported 20.7</td>
</tr>
<tr>
<td>12 PAv will act as a mediator of the risk aversion-‘Control’ relationship</td>
<td>Not supported 2.3</td>
</tr>
<tr>
<td><strong>Collaborate</strong></td>
<td></td>
</tr>
<tr>
<td>13 Need for affiliation as a personality trait in a latent entrepreneur is positively related to a preference for an organization that is characterized by ‘collaborate’ culture values.</td>
<td>Supported 7.7</td>
</tr>
<tr>
<td>14 Mastery-Approach as a goal orientation in a latent founder is positively related to a preference for an organization that is characterized by ‘collaborate’ culture values</td>
<td>Supported 9.9</td>
</tr>
<tr>
<td>15 Need for affiliation is positively related to the setting of MAp goals by latent entrepreneurs</td>
<td>Supported 15.5</td>
</tr>
<tr>
<td>16 MAp will act as a mediator of the need for affiliation-‘collaborate’ relationship.</td>
<td>Supported 12.5</td>
</tr>
</tbody>
</table>
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

Appendix

Survey Questions for Clear Voice Research

Ethics Approval: #2358.
Submitted for Field Application: 16 October, 2012

WAVE ONE (Antecedents)

SELECTION QUESTIONS
The following questions are aimed at restricting the range of respondents to ‘latent entrepreneurs’ between the ages of 25 and 45 (most common age for starting a business)

Age
How old are you?
If between 25 and 45 continue. If not end.

Work Experience
How many years of work experience do you have?
Drop down menu
0, 1, 2, 3, 4, five or more
If less than 2 years end.

Latent Entrepreneur Question
Suppose you could choose amongst three different kinds of work activities, which one would you prefer:
1. Being an employee?
2. Being self-employed? (defined as an individual working for themself)
3. Running your own business? (defined as owning a business with employees)
If 1: end. If 2 or 3: proceed

Actual versus Latent
Do you currently own or run a business yourself?
YES/NO
If yes end. If no continue

**Opt-in statement:**

Hi!

My name is Michael Kay and I am the PhD student who commissioned this study. The data collected in this survey will bring to an end four years of research and determine whether my work is acceptable to the university. No question, in my life, and that of my immediate family, this survey is REALLY important!

I like to think that the project is not only important to me. The research is focused on certain attitudes and behaviours people display and the effect they have on the life choices people make. I don’t want to tell you too much now as I will influence your answers, but at the end of the third wave of this survey there will be a web address where you can go and find the ideas behind the research and **how they may apply to you.** I also hope to post the results of the data analysis on the same web site once it is completed.

Meanwhile, here are few things you may wish to know:

The whole survey is in 3-waves. The first instrument should take you about XX (insert estimate from coder) minutes to complete. The other two are much shorter and will be sent to you after delays of approximately one week (revise based on Clear Voice experience).

There are no expected physical or psychological risks associated with this study.

If you wish to contact me, use mkay@fastracu.com and I will respond as soon as possible.

The survey is conducted under the rules set by the Research Ethics Board of Wilfrid Laurier University. If you feel your rights as a participant in research have been violated during the course of this project, you may contact Dr. Robert Basso, Chair, University Research Ethics Board, Wilfrid Laurier University, (519) 884-1970, extension 5225 or rbasso@wlu.ca.

The data from this survey will be provided to me in electronic form. There will be no way that I can identify individuals or link responses to a specific person. Data will be stored electronically under password protection and in a locked room on the WLU campus and will only be viewed by me and my supervisor. Data will be erased after 5 years. Results, if published, will only use aggregate data such that no individual can be identified.

For the research to be valuable it is hugely important that you complete all three of the waves. If you feel that you can commit to the 3 waves please click the “I can commit to completing all 3 waves” button and start the survey.

**INSERT BUTTONS –**

“I can commit to completing all 3 waves”

“I am not able to help”.

Again, if you have decided to take part, please accept my thanks.

Michael Kay
SCALES
(Social Desirability Test)
Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it relates to you.

1. It is sometimes hard for me to go on with my work if I am not encouraged.
2. I sometimes feel resentful when I don’t get my way.
3. On a few occasions, I have given up doing something because I thought too little of my ability.
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.
5. No matter who I’m talking to, I’m always a good listener.
6. There have been occasions when I took advantage of someone.
7. I’m always willing to admit it when I make a mistake.
8. I sometimes try to get even, rather than forgive and forget.
9. I am always courteous, even to people who are disagreeable.
10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I was quite jealous of the good fortune of others.
12. I am sometimes irritated by people who ask favors of me.
13. I have never deliberately said something that hurt someone’s feelings.

(Need for Affiliation)

How well do the following statements describe you? Thinking about your typical attitudes and behaviors to date, please read each statement and record your response by clicking a choice on the following five-part scale such that:

1 means ’Not at all’ (0%),
2 means ’Somewhat’,
3 means ’Some of the time’ (say 50%)
4 means ’Nearly completely’
5 means Completely’ (100%).

PLEASE complete ALL questions.
How well does this statement describe you?
14. I try my best to work alone
15. I make a special effort to get along with others I work with
16. I attend social activities rather than stay at home alone
17. When I have a choice, I try to work in a group instead of by myself
18. I make friends rather quickly and feel at ease in a few minutes
19. I often find myself talking to others about general matters
20. I consider myself a team player when it comes to work activities

(Risk taking propensity)
Looking back on your life, please read each statement and tell us how well it DESCRIBES you using the following five-part scale such that:

1 means 'Not at all' (0% of the time),
2 means 'Somewhat'
3 means 'About 50%'
4 means 'Nearly completely'
5 means 'Completely' (100% of the time)

How well does this statement describe you?
37. Safety first
38. I do not take risks with my health
39. I prefer to avoid risks
40. I take risks regularly
41. I really dislike not knowing what is going to happen
42. I usually view risks as a challenge
43. I view myself as a risk avoider
44. Mark as 2

(Need for Dominance)\(^4\)
How well do the following statements describe you? Thinking about your typical attitudes and behaviors to date, please read each statement and record your response by clicking a choice on the following five-part scale such that:

1 means 'Not at all' (0%),
2 means 'Somewhat',

\(^4\) The following scales were added to Wave 3 based on excessive length of Wave 1.
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

3 means 'Some of the time' (say 50%)
4 means 'Nearly completely'
5 means Completely’ (100%).

How well does this statement describe you?

1. I seek an active role in the leadership of a group.
2. I avoid trying to influence those around me to see things my way. (R)
3. I find myself organizing and directing the activities of others.
4. I strive to gain more control over the events around me at work.
5. I strive to be “in command” when I am working in a group.

(Originality/Creativity)

How well do the following statements describe you? Thinking about your typical attitudes and behaviors to date, please read each statement and record your response by clicking a choice on the following five-part scale such that:

1 means 'Not at all' (0%)
2 means 'Somewhat’
3 means 'Some of the time' (say 50%)
4 means 'Nearly completely'
5 means ‘Completely’ (100%).

How well does this statement describe you?

1. Am able to come up with new and different ideas.
2. Like to think of new ways to do things.
3. Come up with new ways to do things.
4. Am an original thinker.
5. Have an imagination that stretches beyond that of my friends.
6. Don't pride myself on being original.
7. Am not considered to have new and different ideas.
8. Have no special urge to do something original.
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

(Demographics) (Drop down menus)

1. Year of birth: cover years from age 25 to 45
2. Sex: M/F
3. Race: White; Black; Hispanic/Latino; American Indian; Asian; Pacific Islander; mixed; other
4. Academic Education: Below high school; high school diploma; college degree; university first degree; graduate degree, doctorate
5. Did/do your parents run a business? Y/N
6. Do any of your friends run a business? Y/N

(Closing Statement)

Please accept my thanks for filling in this survey; it is of enormous help to me. The next Wave of the survey will be available in a few days. You can help enormously by filling all the surveys in. Again, thanks.

WAVE TWO (Mediator)

Opt-in statement:
This is the second survey instrument in the three waves. The data collected from this study will form part of my Ph.D. dissertation. Collecting high quality data is critical or the university will not accept the results of four years of research. If you feel you can give the survey the few minutes required please re-opt to continue by clicking the continue button.

Put in

“I am prepared to continue”
“I would like to drop out at this point”

“I am prepared to continue” continues. “I would like to drop out at this point” ends

SCALES

(Goal Orientation)
THE RELATIONSHIP BETWEEN PERSONALITY TRAITS, GOAL ORIENTATION, AND PREFERRED ...

How well do the following statements describe your attitudes in a WORK setting? Thinking about your typical attitudes and behaviors to date, please read each statement and record your response by clicking a choice on the following five-part scale such that:

1 means 'Not at all' (0%),
2 means 'Somewhat',
3 means 'Some of the time' (say 50%)
4 means 'Nearly completely'
5 means Completely’ (100%).

PLEASE complete ALL questions.

(Goal Orientation)

1. My main goal at work is to avoid messing up the tasks required for my job.
2. I just try to avoid being incompetent at performing the skills and tasks necessary for my job.
3. I just hope I am able to master enough skills so I am competent at my job.
4. When I am engaged in a task at work, I find myself thinking a lot about what I need to do to not mess up.
5. At work, I focus on not doing worse than I have personally done in the past on my job.
6. My goal is to avoid being incompetent at performing the skills and tasks necessary for my job.
7. I avoid taking on new tasks at work when I’m not sure I’ll be able to learn or master them.
8. I often think that I might not be able to master all the skills required for my job.
9. I just hope I am able to maintain enough skills so I am competent at my job.
10. At work, I often feel that I’m unable to master what is necessary to do my job.
11. At work, I am just trying to avoid performing the tasks required for my job poorly.
12. I am willing to select a challenging work assignment that I can learn a lot from.
13. For me, development of my work ability is important enough to take risks.
14. I often look for opportunities to develop new skills and knowledge.
15. I enjoy challenging and difficult tasks at work where I’ll learn new skills.
16. I like to show that I can perform better than my coworkers.
17. I prefer to work on projects where I can prove my ability to others.
18. I try to figure out what it takes to prove my ability to others at work.
19. I enjoy it when others at work are aware of how well I am doing.
20. I would avoid taking on a new task if there was a chance that I would appear rather incompetent to others.
21. Avoiding a show of low ability is more important to me than learning a new skill.
22. I prefer to avoid situations at work where I might perform poorly.
23. I’m concerned about taking on a task at work if my performance would reveal that I had low ability.

(Closing Statement)
Thank you so much for filling in this survey. Your efforts are really appreciated. The final survey will be arriving soon. By this is the critical survey. Without it a lot of the value of the prior two surveys is lost. Please help finish this research program.

Michael Kay

WAVE THREE (Criterion)

Opt-in statement
This is the final survey in the series. The results from this and the prior surveys will form part of my Ph.D. dissertation. Collecting high quality data is critical if the research is to be accepted by the university. If you feel you can give the survey the time and effort required please re-opt to continue by clicking the “Let’s finish this!” button

“Let’s finish this!”
“I am going to drop out”

If “Let’s finish this!” then continue. If “Let’s finish this!” then stop

(Competing Values Model)

Read the following descriptors of how organizations can feel and act. Think about the kind of organization you would PREFER to WORK in. This NEED NOT be the organization that you ACTUALLY, CURRENTLY WORK FOR. Your answers should reflect your PREFERENCES.

Mark your preferences using the following scale:

1= Strongly disagree
2= Disagree somewhat
3= Neither disagree nor agree
4= Agree somewhat
5= Strongly agree

The DOMINANT CHARACTERISTICS of the kind of organization I would PREFER to work in are:

1. The organization is a very special place. It is like an extended family. People seem to share a lot of themselves.
2. The organization is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.
3. The organization is very production oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.
4. The organization is a very formalized and structured place. Bureaucratic procedures generally govern what people do.

The ORGANIZATIONAL LEADERS of the kind of organization I would PREFER to work for are generally:

5. Considered to be mentors, facilitators, or parent figures.
6. Considered to be entrepreneurs, innovators, or risk takers.
7. Considered to be hard-drivers, producers, or competitors.
8. Considered to be coordinators, organizers, or efficiency experts.

The MANAGEMENT STYLE in the kind of organization I would PREFER to work for would be:

9. Characterized by teamwork, consensus and participation.
10. Characterized by individual risk-taking, innovation, flexibility, and uniqueness.
11. Characterized by hard-driving competitiveness, goal directedness, and achievement.

The “GLUE” THAT HOLDS THE ORGANIZATION I would PREFER to work for together would be:

13. Loyalty and mutual trust. Commitment to this organization runs high.
14. Orientation toward innovation and development. There is an emphasis on being on the cutting edge.
15. An emphasis on production and goal accomplishment. Marketplace aggressiveness is a common theme.
16. Formal rules and policies. Maintaining a smooth running organization is important. The STRATEGIC EMPHASES of the organization I would PREFER to work for would be:

17. Human development. High trust, openness and participation persist.
18. Acquiring new resources and meeting new challenges. Trying new things and prospecting for new opportunities are valued.
19. Competitive actions and achievement. Measurement targets and objectives are dominant.
20. Permanence and stability. Efficient, smooth operations are important.

In the organization I would PREFER to work for, SUCCESS IS MEASURED on the basis of:

21. The development of its people, teamwork, and its concern for its people.
22. Having the most unique or the newest products. It is a product leader and innovator.
23. Market penetration and market share. Competitive market leadership is key
24. Efficiency. Dependable delivery, smooth scheduling, and low cost production are critical.

Please read to following descriptors of four different type of organizational culture. Pick the culture you would prefer to work in.

(Closing Statement)

Please accept my thanks for completing all 3 waves of this survey. Your help is sincerely appreciated. If you would like to know more about the research behind this survey and how it may affect you as well as seeing the results as they unfold during analysis, you should click on this link.

Again, thank you
Michael Kay