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Profiles and Culture: Multi-Level Latent Profiles Based on Personality Traits and Facets and Profile Influences on Performance Outcomes across Cultures

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by

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Abstract

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by

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Personality research has traditionally adopted a variable-centric approach but recently more studies have adopted a person-centric approach. A person-centric approach can provide additional insights in that it explores for multiple unobserved subgroups within a population and examines the extent to which relationships may differ across subgroups. The current study adds to this growing area in four ways. First, studies have attempted to identify common personality profiles, but results have been inconsistent and very few studies have examined work-relevant samples. The current study addresses this issue based on a large sample that is diverse in terms of industries, occupations, and countries. Second, past research has established personality profiles using either the Five-Factor Model or the Honesty-Humility Emotionality eXtraversion Agreeableness Conscientiousness Openness

(HEXACO) model (e.g., Conte et al., 2017; Daljeet et al., 2017). However, these models may be too broad for understanding and predicting work-related criteria. The current study establishes personality profiles based on 15 lower-order personality traits, which can inform predictor-performance relationships at a facet level. Third, very few person-centric studies have linked personality profiles to performance outcomes. The current study examines various performance outcomes described in Campbell's performance taxonomy (Campbell & Wiernik, 2015). Finally, previous research has not examined the potential influence of national culture on profile emergence. The current study builds on Gelfand's cultural tightness-looseness framework (Gelfand et al., 2006) to examine how national culture impacts personality profile emergence, as well as profile-performance relationships based on different work outcomes. These issues were examined in an archival dataset involving 53,046 employees across 17 industries and 76 countries. These employees completed a proprietary measure of personality, and their dimensional and overall performance were rated by their direct supervisors. Latent profile analysis resulted in a six-profile structure based on five personality traits and an eight-profile structure based on 15 personality facets. Analyses also indicated that each profile was associated with different performance outcomes in a unique way. Additionally, national culture did not have a direct effect on trait or facet profile emergence, but it had a moderation effect such that certain personality profiles were scored higher/lower on specific performance domains depending on the strength of a country's social norms. Results from this research may inform

models of personality and performance and selection systems incorporating personality assessments.

Keywords: Latent profile analysis, personality, performance, culture.

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Dedication

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Chapter 1 - Introduction

For decades, researchers have been studying the question of how employee personality influences behavior on the job and the mechanisms that underlie personality-job behavior/outcome relationships (e.g., Guion & Gottier, 1965; Barrick et al., 2001; Barrick & Mount, 1991; Salgado, 1997; Salgado, 2002; Tett et al., 2006). In the early years, personality was not considered a valid predictor of job performance (e.g., Locke & Hulin, 1962), which was largely due to the lack of a well-accepted personality taxonomy at the time. When the Five-Factor Model (FFM) emerged and was replicated across multiple samples, researchers, methods, instruments, and cultures (e.g., Borgatta, 1964; Digman, 1990; Goldberg, 1992; McCrae & Costa, 1985), it provided a meaningful taxonomy for studying individual differences. The FFM of personality asserts that people's personalities can be represented as traits, and people's behaviors are reflective of these inner traits (McCrae & John, 1992).

In the workplace, these employee dispositional traits are associated with job-related behaviors and the outcomes that organizations value (R. Hogan, 2005; Mount et al., 2005), people's vocational interests (Barrick et al., 2003), and the particular types of job settings individuals actively seek out and prefer (Mount et al., 2005; Stewart, 1999). This line of research examined personality traits' relationship with various outcomes, but the five traits were treated as isolated variables with studies largely focusing on their separate effects on those outcomes

(Daljeet et al., 2017). These studies are representative of a traditional variable-centric approach, which strives to establish relationships between variables across people, and these relationships are assumed to be uniform within a given population (e.g., Daljeet et al., 2017).

However, several considerations suggest that examining multiple traits simultaneously may reveal more about the nature and implications of personality at work. For instance, models such as the FFM clearly indicate that individuals consist of multiple traits, suggesting a fuller understanding of employee personality requires examining all of these traits together. Furthermore, there may be multiple unobserved subgroups within a population that differ on their trait configurations, and the relationships between variables may differ across subgroups. These ideas represent a person-centric approach, which focuses on how people possess several variables that form an integrated system, and the effects of different patterns of such variables on outcomes (Merz & Roesch, 2011). Applying a person-centric approach to personality, the research question shifts from the separate associations of personality traits to the associations of configurations of all five personality traits as a whole with outcomes. Although recent research has begun to study personality through this person-centric lens, the total number and types of personality configurations (i.e., personality profiles) found are inconsistent across studies (e.g., Conte et al., 2017). Additionally, the variables that are used to form personality profiles are at the broad level of the FFM, and very few studies have linked

personality profiles to performance outcomes (for exceptions see Conte et al., 2017; Perera et al., 2018).

Building on previous research, the current study aims to adopt the person-centric approach to examine personality profiles to expand and deepen our understanding of the nature and implications of personality profiles in four ways. First, we want to address the issue of profile inconsistency that has emerged across prior studies. Previous research was mostly conducted in one organization (e.g., military; Conte et al., 2017) or under one job family (e.g., teacher; Perera et al., 2018). This may restrict the heterogeneity of the personality traits because the selection and socialization processes within an organization tend to increase the homogeneity among employees' personalities (B. Schneider, 1987), and the assessed traits may be highly relevant in some jobs but unimportant or not demanded in others (Tett et al., 2006). The current research addresses this issue using a large dataset (N = 53,046) that includes working adults across industries, occupations, and nations to discover potential subpopulations that have unique personality configurations. Using a large dataset that has participants with diverse backgrounds may help us to reduce sampling issues and thus generate more consistent and generalizable personality profiles.

Second, we want to further explore personality profiles using facet level indicators because measuring personality characteristics at the facet level can uncover distinctive relationships with work outcomes that otherwise would not be revealed at the broad factor level (Tett & Christiansen, 2007). Indeed, previous

research indicates that facet level personality characteristics have unique contributions to specific work outcomes. For example, a meta-analytic study showed that several facets such as Sensation-seeking, Altruism, Anger, and Impulsiveness were all meaningfully associated with safety-related behavior, and Sensation-seeking demonstrated a stronger relationship than its parent trait (i.e., Extraversion; Beus et al., 2015). Therefore, if workplace safety behavior is crucial for the organization, the best personality profile might be a person who has a combination of low Sensation-seeking, Anger, and Impulsiveness paired with high Altruism. In the current study, we use an archival dataset that has two facets for each of the FFM traits and five additional facets that are not covered by the FFM. Building personality profiles at this level can reveal the number and nature of facet-level configurations that may exist, help us better understand the personality-performance relationship in context, and explain inconsistent findings in previous research.

Third, previous person-centric research has associated personality profiles with health outcomes (Chapman & Goldberg, 2011), school-related behaviors and performance (Donnellan & Robins, 2010), and well-being (Isler et al., 2017), but very few person-centric studies have linked personality profiles to work performance outcomes. Among the few studies that have examined FFM profiles' impact on workplace outcomes, Perera et al. (2018) found four distinct profiles of teacher personality, which differentially affected teacher self-efficacy, work engagement, and job satisfaction. However, this study did not examine job

performance and the sample sizes for males and some profiles were small, raising questions about the generalizability of the study results. Another study examined personality profile effects on soldiers' attrition rate and performance ratings and found that Resilients (i.e., a profile that has high levels of Emotional Stability and Conscientiousness, paired with moderate Extraversion and Agreeableness) have higher performance ratings in discipline than other profiles (Conte et al., 2017). Nevertheless, due to the nature of the military sample, the indicators' levels for each profile were different from other studies. For example, Resilients in Conte et al. (2017) had below-average Extraversion, when other studies have typically found moderate Extraversion in Resilients. The current study aims to examine personality profiles' effect on various performance outcomes to gain a better understanding of their effects in the workplace.

Lastly, we examine national culture's role in this context, focusing on (a) the potential associations of culture with people's personality profile emergence and (b) the extent to which personality profiles may be differentially predictive of specific performance outcomes across cultures. Regarding the first issue (culture and profiles), it is important to note that the FFM's structure can be generalized across cultures (e.g., Minkov et al., 2019; Salgado, 1997; Salgado, 2002). And when the measurement is translated by psychologists who understand the local language and culture, the FFM's raw scores can also be generalized across cultures, making the comparison of individuals' raw scores on the FFM traits meaningful (McCrae, 2002). Therefore, it is possible to establish personality profiles using the

same traits as profile indicators across cultures. Furthermore, there are reasons to think that cultural characteristics might be associated with the nature and variation of personality profiles. The culture tightness-looseness framework, for example, asserts that for countries that have a tight culture, the social norms are clear, the effect of social norms is strong, and any deviation from social norms will likely be sanctioned (Gelfand et al., 2006). Hence, personality profiles in tight cultures may have less variety, and profiles that represent a very small number of individuals may be less common in these cultures. On the other hand, in nations that have a loose culture, the number and clarity of social norms are low, the social norms are enforced less, and the tolerance level for deviant behavior is high (Gelfand et al., 2006). Therefore, it is likely that the total number and the variations of personality profiles in loose cultures will be greater than those in tight cultures.

Regarding the second issue (culture and profile-performance relationships), inconsistent personality-outcome relationships have been found in different cultures in past research. For example, Extraversion was positively associated with how socially active the participants were in a U.S. sample, but this relationship was not significant in a German sample (Nezlek, Schütz, Schröder-Abé, & Smith, 2011). This suggests that personality profile-outcome associations may also differ across cultures. For example, task and contextual performance are core performance dimensions that are important in every culture (e.g., Mount et al., 1998; Organ & Ryan, 1995), but on the predictor side, personality profiles may be different across cultures. Thus, a profile that is predictive of higher performance for

a certain performance criterion (e.g., contextual performance) may not exist in another culture, and it might be a completely different personality profile that is predictive of the same performance criterion in a different culture. The current study explores this possibility and examines which personality profiles are associated with better performance on specific performance outcomes across cultures, and which personality profiles' associations with performance outcomes are more constrained by cultural influences.

The Five-Factor Model (FFM) of Personality

Personality refers to an individual's characteristic patterns of thought, emotion, and behavior, as well as the psychological mechanisms behind those patterns (Funder, 2001). It is an individual's habitual patterns of thinking, feeling, and doing. Therefore, personality traits reflect an individual's motivational control (i.e., choices, preferences, wishes, and desires), and influence behaviors that are generally consistent over situations and time, which distinguish individuals from each other (Barrick & Mount, 1991; Costa & McCrae, 1992). Personality traits have been found to recur across cultures (McCrae et al., 2005), are strongly heritable (Bouchard, Jr. & Loehlin, 2001; Riemann et al., 1997), and characterize individuals for long periods during adulthood (Modgil & Modgil, 2012).

Developed through a lexical approach, the FFM describes the basic traits of human personality at a global level (Goldberg, 1992). Even though the FFM has received some criticism related to its structure (e.g., Hough, 1992), it is generally accepted that it provides a parsimonious yet integrated taxonomy to organize

human personalities. In terms of its parsimony, the FFM traits are broad enough to be inclusive, consistent, and related to broad performance criteria such as overall performance (e.g., Ones et al., 1996). Regarding its integrated nature, a specific personality trait is likely to have a significant relationship with at least one of the FFM dimensions. Additionally, the distinctive nature of the FFM traits makes it possible for researchers to examine their differential relationships with a variety of outcomes.

Conscientiousness refers to the extent to which a person is dependable, persistent, organized, and goal-directed (Barrick & Mount, 2005; Costa & McCrae, 1992). This personality trait reflects a person's tendency that is related to success-orientation, the persistence of behavior, and control of impulses. It comprises both dynamic elements (anticipation, success-orientation, and task-orientation) as well as control and inhibition elements of behavior (organization, perseverance, thoroughness, and respect for standards and procedures; Allik & McCrae, 2002).

Emotional Stability (the opposite end is called Neuroticism) involves the extent to which people are calm, steady under pressure, and less likely to experience negative emotional states including anxiety, depression, and anger (Costa & McCrae, 1992). This personality trait reflects the personal disposition that enables people to effectively control their negative emotions. It helps people to overcome distracting emotions that can take away the attentional resources they need to perform a task (Kanfer & Ackerman, 1989; Kanfer & Heggestad, 1997).

Extraversion describes how sociable, gregarious, talkative, assertive, active, and ambitious a person is (R. Hogan, 1986; McCrae & Costa, 1985). This personality trait reflects an individual's quantity and intensity of relationships with his/her environment (mostly social). It also reflects an individual's tendency to seek contacts with the environment with energy, spirit, enthusiasm, and confidence, and to live out experiences positively (Allik & McCrae, 2002).

Openness to Experience (Openness for short) refers to how intelligent, curious, broad-minded, imaginative, and cultured a person is (Costa & McCrae, 2011). It has the highest correlation of any of the personality dimensions with measures of cognitive ability (McCrae, 1987). Openness reflects how individuals filter and process cognitive, emotional, and perceptual information (McCrae & Costa, 1997). Open individuals value novelty and variety, generate remote associates to ideas, become intensely absorbed in their activities, and tolerate-even cultivate-ambiguity. In contrast, people who have a low standing on this dimension are traditional, down-to-earth, and compartmentalized in their thinking (Costa & McCrae, 2011).

Agreeableness refers to how courteous, trusting, straightforward, cooperative, and soft-hearted a person is (Costa & McCrae, 2011). This personality trait describes the nature of one's relationships with others and differs from Extraversion in that it refers more to the relational sphere and the tone of relationships with others (kindness, empathy vs. cynicism, hostility), whereas Extraversion refers more to the individual him/herself. Agreeable people tend to be

more prosocial and motivated to get along with others, and they are driven to behave in a way that fosters and preserves positive and meaningful relationships with others (McCrae & Costa, 1987).

Job Performance

Job performance refers to people's behaviors and actions that contribute to the organization's goals (Campbell & Wiernik, 2015). These cognitive, motor, psychomotor, and interpersonal behaviors are controlled by the individual, relevant to the organization's goals, and scalable in terms of proficiency (Campbell et al., 1993). Job performance is multidimensional because any job is a complex activity that requires many major and distinctive performance components (Campbell et al., 1993). Also, achieving organizational goals requires different individual actions, which can be categorized into relatively distinct dimensions based on the content of the actions and behaviors, and each dimension may be differentially related to predictors and outcomes (Campbell & Wiernik, 2015). There are many multidimensional job performance models, such as typical and maximum performance (DuBois et al., 1993), task and contextual performance (Borman & Motowidlo, 1997), and performance that contributes to the individual, team, or organizational level (M. A. Griffin et al., 2007). Nevertheless, those models are too broad to describe a person's performance components, which makes practical recommendations more difficult. For example, task performance refers to people's behaviors that contribute to the technical core of the organization, and contextual performance represents people's behaviors that contribute to the smooth

operational environment of an organization's technical core (Borman & Motowidlo, 1997). However, the task/contextual performance model distinguishes job performance into two broad categories that need to be further distinguished within each category – for example, administrative performance and leadership for task performance, and then interpersonal facilitation and job dedication for contextual performance – so that organizations can develop actionable strategies to improve performance in each category (Conway, 1999).

Campbell's performance dimension model (Campbell & Wiernik, 2015) is a factor model that has eight latent factors to summarize an individual's performance in a work role. It aims to describe what a person does, instead of the results or the bottom line of an individual's action. This model is broad enough to describe individual performance in any organizational level, functional specialty, industry section, and type of organization; yet, it is specific enough to include the principal content dimensions of performance in a work role. The first factor, technical performance, is similar to task performance and it refers to the technical performance requirements of one's job. Depending on the job, the technical performance requirements can vary in subject areas, and within areas, they can vary in the level of complexity or difficulty. The second factor is communication proficiency and it refers to an individual's behavior in conveying clear and understandable information in a compelling and well-structured manner, whether it is written or oral, formal or informal. The third factor is related to demonstrating initiative, persistence, and effort, which describes a person's observable behaviors

that are reflective of his/her persistence, willingness to take initiative, and going above and beyond his/her prescribed responsibilities. The fourth factor is called maintaining discipline, which describes individuals avoiding counterproductive workplace behaviors that are under the individual's control and are intentionally harmful to the goals of a unit, organization, or other individuals within the organization. The fifth factor is called hierarchical leadership, and it describes a person's behaviors that are interpersonally influential, charismatic, and transformational so that the person can use the influence to lead subordinates through a complex and dynamic environment. The sixth factor is hierarchical management performance, which refers to an individual's management of organizational resources to best achieve the organization's goals, and it involves behaviors such as gaining, preserving, and allocating resources, removing roadblocks for goal achievement, and representing the unit in working with other units. The seventh factor is about the leadership of team and peer performance, which involves a person's supporting, motivating, helping, and cooperating behaviors that occur in a team context and peer/team interrelationships to facilitate group functioning. Lastly, the management of team and peer performance refers to behaviors related to planning and problem solving, monitoring team performance and balancing workload, as well as showing commitment to organizational policies and procedures.

We also add an additional dimension to Campbell's model (Campbell & Wiernik, 2015), overall performance, to describe a person's performance at the

aggregated level because many research and organizational practices use this dimension to make decisions. More specifically, research has found a general factor that represents an individual's overall job performance, which can be measured by aggregating the scores of sub-facet measures of an individual's job performance (Viswesvaran et al., 2005). It should be noted that the general factor is not a single underlying latent variable that reflects performance as a whole. It has no clear conceptual meaning. Instead, the general performance factor must be formed by summing the scores of different performance components. Thus, overall job performance is an empirical general factor that is useful for making practical decisions such as in selection and promotion (Campbell & Wiernik, 2015).

Personality and Job Performance

It has been established that personality is one of the important determinants of job performance, and the FFM traits are differentially related to specific performance components (e.g., Barrick & Mount, 1991). Past research has consistently found that Conscientiousness positively predicts job performance and that this relationship is generalizable across settings and occupations (Barrick et al., 2003; Barrick & Mount, 1991; Hurtz & Donovan, 2000; Schmidt et al., 2008; Tett et al., 2006). Specifically, Conscientiousness is positively related to task performance (Barrick et al., 2005) and contextual performance, and it is negatively related to counterproductive work behavior (CWB) that may potentially harm the well-being of the organization (Berry et al., 2007; Ilies et al., 2009; Rotundo & Sackett, 2002). However, an excessive level of Conscientiousness has been found

to harm job performance (Le et al., 2011), because excessively conscientious people may pay too much attention to small details, overlook more important goals required on the job, or become rigid and compulsive perfectionists (Lepine et al., 2000; Moscoso & Salgado, 2004; Mount et al., 2008).

Emotional Stability has a relatively modest positive relationship with job performance (Barrick & Mount, 1991; Ones et al., 2007), which might be the result of a curvilinear relationship between the two variables. For example, researchers found evidence that at the extremes of low and high levels of Emotional Stability, people's performance is lower, but as emotion level deviates from the extremes toward the mean, performance gradually increases (Le et al., 2011). This is because the appropriate level of Emotional Stability helps people to focus on relevant task cues and ignore irrelevant ones, but further increases in Emotional Stability may negatively impact performance because people may ignore relevant task cues due to obsessive focus on self-regulation and emotional control (Le et al., 2011). Regarding contextual performance, past research generally found a weak and positive relationship between Emotional Stability and organizational citizenship behavior (OCB; Organ & Ryan, 1995). Many empirical studies also examined the relationships between Emotional Stability and CWB, and consistently found a negative relationship (Berry et al., 2007). This is because individuals who are low on Emotional Stability are susceptible to the negative effects of job stressors, which lead to higher emotional exhaustion and resource depletion. Thus, these individuals are less likely to help others and engage in other organization-benefiting behaviors,

and they tend to be more likely to commit CWBs against the organizations (Conard & Matthews, 2008; Fox et al., 2001). Similar to Emotional Stability's influence on task performance, Le et al. (2011) found a curvilinear relationship between Emotional Stability with OCB and CWB, respectively. Specifically, the relationship between Emotional Stability and OCB was positive only up to a point. Beyond that point, the positive relationship became weaker and eventually disappeared at an extremely high level of Emotional Stability. A curvilinear relationship was also found between Emotional Stability and CWB in a reversed direction, such that it was initially negative, but gradually became less negative as Emotional Stability increased, and it eventually disappeared at the extremely high level of Emotional Stability (Le et al., 2011).

Extraversion is a valid predictor of job performance when the job requires interaction with others (e.g., customer service and managers), and is less important for jobs that have less social interaction demand (e.g., engineers). Overall, Extraversion predicts job and training proficiency (Barrick & Mount, 1991), and it has a strong and negative relationship with workplace ostracism which is defined as "the extent to which an individual perceives that he or she is ignored or excluded by others at work" (Ferris et al., 2008, p. 1348; Howard et al., 2019). A recent study by Wilmot et al. (2019) summarized results from 97 published meta-analyses reporting relations of Extraversion to 165 distinct work relevant variables. The results showed a pervasive advantage for Extraversion, as it is associated with higher ratings of overall job performance across raters and performance dimensions

(Wilmot et al., 2019). Nevertheless, when team task conflict is higher (Cullen-Lester et al., 2016), social interaction is lower (Gnambs, 2015), and managers lead more proactive employees (Grant et al., 2011), Extraversion's effects are reduced and the opposite pole, Introversion, appears to be an advantage. Additionally, there is a curvilinear relationship between Extraversion and work outcomes, as too much Extraversion can be harmful to social network size (Bozionelos, 2017), sales revenue (Grant, 2013), performance in leaderless group discussion (Waldman et al., 2004), managerial performance (Minbashian et al., 2009), and leadership (Ames & Flynn, 2007; Kaiser & Hogan, 2011).

Openness predicts training proficiency (Barrick & Mount, 1991), which indicates that people who score high on this dimension are more likely to have positive attitudes toward learning experiences in general. When the job involves interactions with others, and the overall performance was rated by the supervisor, Openness predicted overall performance positively (Mount et al., 1998). However, Openness has the lowest predictive validity for job performance among the FFM traits (Barrick & Mount, 1991). A meta-analytic study that expanded the performance criteria beyond job performance to include additional eight categories showed that Openness predicts adaptive performance the best among these criterion variables, even though the magnitude is small (Woo et al., 2014).

Research shows that, in general, Agreeableness is not an important predictor of job performance, even for jobs that have a large social interaction component (Barrick & Mount, 1991). However, when the job involves interactions

with others and the criterion is supervisor ratings of performance, Agreeableness predicts people's overall performance, and it has a stronger relationship with performance in work teams than in dyadic service jobs (Mount et al., 1998). It is also the best FFM predictor of interactions with others (Mount et al., 1998), and it predicts teamwork positively (Hough, 1992). A recent meta-analysis showed that Agreeableness is the best predictor of workplace ostracism and this large and negative relationship may because agreeable people tend to be more passive and less likely to initiate conflict that may result in being ostracized (Howard et al., 2019).

The Mechanisms through which Personality Influences Performance

There is general agreement that measures of personality link to work behavior through proximal constructs (Kanfer & Ackerman, 1989; McCrae & Costa, 1996). Personality influences people's job behaviors through different mechanisms because it has profound influences on motivations, resources, perceptions, and values (Eysenck, 1954; Fischer & Boer, 2015; Krueger, 2002; Lord et al., 1986; Marcus et al., 2013; Ones et al., 2007; Organ & Ryan, 1995). First, personality can guide people's behavior through a motivational path, such that it influences the goals people choose and pursue, which in turn affects experienced meaningfulness and outcome attainments at work (Barrick et al., 2003, 2013). For example, Extraversion helps facilitate the attainment of individuals' specific goals (McCabe & Fleeson, 2012) and more generalized strivings toward higher-order goals of status, power, and self-enhancement (Barrick et al., 2013).

Such goal-seeking and striving behaviors drive people's proactivity in the workplace, which may be reflected in making technical innovations, adapting job characteristics, and advocating initiatives for organizational change (Wilmot et al., 2019). In sum, personality influences people's motivation and motivational strategies to approach desired rewards in the workplace, which in turn influences their job performance.

Second, personality taps into people's emotional resources for coping with workplace situations. The broaden-and-build theory, for example, asserts that positive emotions broaden one's awareness and build one's thought and behavior repertoires, which in turn helps people to be more resilient and cope with distress better (Fredrickson, 2004). In contrast, negative emotions tend to have a narrowing effect which puts people into survival mode. The workplace offers many cues for people to interpret, and together with personality's influence, the interpretations of those cues guide positive or negative emotions people experience. Often, positive emotions are associated with desired work outcomes such as job satisfaction and workplace adjustment (Wilmot et al., 2019). Negative emotions, on the other hand, are often negatively associated with desired work outcomes such as overall performance, especially in jobs involving interaction with others (Mount et al., 1998). Emotional Stability is an FFM trait that describes people's propensity to experience and control negative emotions. Those who have low levels of Emotional Stability tend to use a vigilant strategy to interpret workplace situations (Lanaj et al., 2012) and they are highly reactive to daily stressors (Suls et al., 1998).

Therefore, these people tend to experience more negative emotions than others, which then negatively influences their job performance or interaction with others in the workplace (Mount et al., 1998).

Third, personality is associated with people's preferences and methods of social interactions, which is a means to gain rewards (Smillie, 2013) and a critical component for certain occupations (e.g., management; Hough, 1992; Huang et al., 2014; Hurtz & Donovan, 2000). Being skillful in social interactions is especially important for jobs that require cooperation with others, customer focus, and management or leadership abilities. A higher level of Extraversion is related to fluency in verbal and nonverbal communication, attention and sensitivity to others, persuasion, leadership emergence, and effectiveness (Wilmot et al., 2019). Therefore, when the criterion of job performance largely focuses on social interactions, such as sales and customer service occupations, those who naturally enjoy and are good at social interactions tend to perform better than those who score lower on this trait (Wilmot et al., 2019).

Lastly, certain personality traits may be more closely related to increases in employee engagement states, which then influence work behaviors (Macey & Schneider, 2008). Personality facilitates the active management and investment of personal energy that fuels work engagement, and certain traits predispose people to be more engaged than others. A meta-analytic study showed that Conscientiousness and Extraversion were the strongest predictors of engagement. Emotional Stability, Openness, and Agreeableness were of lesser importance, but they still significantly

predicted engagement (Young et al., 2018). Regarding how personality influences performance through work engagement, a meta-analytic study showed that work engagement mediated the positive effect of Conscientiousness on task and contextual performance (Christian et al., 2011).

Using Profiles to Understand Personality-Performance Relationships

Although significant progress has been made toward understanding the personality-performance relationship (Ones et al., 2005), many questions remain to be answered, as reflected in a debate on the status of research on personality in personnel selection (Morgeson et al., 2007; Ones et al., 2007; Tett & Christiansen, 2007). Morgeson et al. (2007) opposed using personality measures as predictors of job performance because they found the validity coefficients were often low, and response distortion of personality tests may hinder personality measures as predictors (Morgeson et al., 2007). However, in a meta-analytic study, Tett and Christiansen (2007) showed that the predictive validities of personality were higher when (a) confirmatory strategies were used to identify job-relevant personality traits, (b) the situation was more personality-oriented (i.e., job analysis has a personality component, or validity coefficients were calculated specifically for certain professions), and (c) when the personality trait and performance dimensions are thematically linked.

Similar to Tett and Christiansen (2007), J. Hogan and Holland (2003) suggested that when predictors and criteria are aligned by theory, the meta-analytic validity of personality measures would exceed that of atheoretical approaches. To

test this argument, they used an aggregated sample from various studies that contained the personality-performance link and found that when performance assessment moved from general to specific job criteria, all the FFM personality dimensions more precisely predicted relevant criterion variables. These results supported the importance of matching personality traits and dimensions of job performance on theoretical grounds (Hurtz & Donovan, 2000) because job performance is multi-dimensional (Campbell, 2012). Unfortunately, few studies actually collect information on or report correlations at the dimensional level for performance (Campbell et al., 1993). This is problematic because linking personality to a broad performance criterion (e.g., task performance or contextual performance) provides organizations with very limited information, making it difficult to improve the selection or development system, as finding a specific strategy to tackle such a broad issue is often impractical.

Personality Interactions

Another way to gain further insight into the predictive validity of personality is to consider interactions among the personality traits because such interactions could add predictive value (Tett & Christiansen, 2007). Traditionally, in studies in which multiple personality variables were considered, the implicit assumption has been that the effects of personality variables are independent and complementary (i.e., additive). For example, Conscientiousness is the most valid predictor of job performance (Barrick & Mount, 1991) and Extraversion is also pervasively beneficial to work outcomes (Wilmot et al., 2019). Using the additive

logic, one might presume that a high level of Conscientiousness combined with a high level of Extraversion will lead to better performance. However, a few researchers have suggested that personality traits may instead have interactive effects, where the relationship between one trait and performance may depend on the level of another trait. For instance, Witt et al. (2002) examined the interactive effects of Extraversion and Conscientiousness on job performance. They found that among the most introverted workers, Conscientiousness was unrelated to performance. This leads to the conclusion that in jobs requiring interpersonal interaction, without Extraversion, Conscientiousness may add little to performance. They also found that Extraversion was positively related to job performance among the highly Conscientious workers but negatively related among less Conscientious workers, indicating that Extraversion without Conscientiousness may yield dysfunctional behavior in jobs requiring interpersonal interaction. These results suggest that the impact of a personality trait on behavior depends on other traits and interpreting the results of a single personality trait without information on other traits may be ill-advised (R. Hogan et al., 1996).

In examining the interaction effects of personality traits for different jobs, Witt et al. (2002) found that when jobs require a high level of interpersonal demands, Conscientiousness predicts performance negatively in workers low in Agreeableness. Similarly, Burke and Witt (2002) examined whether other personality variables might moderate the Openness-job performance relationship because it was the weakest relationship in Barrick and Mount's (1991) seminal

meta-analytic study. Specifically, it is possible that in environments where open-mindedness, inquisitiveness, and change acceptance are valued, Openness might be crucial to performance. Burke and Witt (2002) found that a low level of Openness was detrimental to the supervisor-rated performance of people who have a higher level of Extraversion, as well as those who are low in Emotional Stability for a group of financial service providers who work with internal team members and external customers regularly. It is possible that people who are predisposed to make known and manifest their low Openness might be weak performers on a job that requires adaptability to others. However, for jobs that value low Openness, such as corporate tour guide (i.e., stick to the corporate tour script), when it is paired with high Extraversion, it might help the person to be a top performer because enjoyable interactions with visitors are highly valued as a performance criterion. So far, research has not examined the combinations of personality traits' relationship with performance depending on different job criteria, and we intend to address this issue in the current study.

Personality Profiles

Although it is possible to examine personality trait combinations and their associations with outcomes within a regression-based framework using variable interaction terms, the interactions among personality traits cannot be easily interpreted, even with just three-way interactions (Litalien et al., 2017; Perera & McIlveen, 2017). Furthermore, when personality traits are reasonably orthogonal such as the FFM dimensions (Marsh et al., 2009), it implies that levels of the FFM

dimensions are independent and one dimension's level does not hinge on the level of another dimension. Therefore, heterogeneity in personality data is possible, and traits may simultaneously co-exist at different levels within individuals. In other words, people may have all high or low levels of all five traits or other combinations of the traits as their unique personality profile (e.g., medium level on Conscientiousness, high level on Extraversion and Openness, and low level on Agreeableness and Emotional Stability). This suggests it may be useful to examine full personality profiles and how they relate to performance. However, this issue has been rarely examined and would be extremely difficult to address using a personality interaction approach. Instead, previous research has mainly adopted a variable-centric approach that aims to explain relationships between variables of interest in a population. It assumes that all individuals from a sample are drawn from a single population, and a set of parameters can be estimated using this sample.

Both correlation and regression analyses are variable-centric approaches, and they emphasize the linear relationships between personality traits and other variables (e.g., performance) across individuals. Similarly, the interaction effect modeled in a variable-centric approach assumes that the sample is homogeneous and any identified interactive effect between personality traits is presumed to apply to the entire sample or population (Pastor et al., 2007). This approach fails to examine potential subgroup heterogeneity of personality traits. Moreover, although interactive effects identified by the variable-centric approach imply that subgroups

of different combinations of personality traits might exist, it fails to clearly identify such subgroups, making subsequent analyses focusing on this issue impossible (Vandenberg & Stanley, 2009). Thus, the previous variable-centric analytical approach cannot capture subgroups that may have different combinations of personality traits, especially when the number of individuals in the subpopulation is small (Gabriel et al., 2015).

A person-centric perspective is thus a complementary approach to variable-centric analyses to examine the joint effect of personality traits because it yields subgroups of personality profiles based on the heterogeneity observed in the data. The person-centric approaches consider the possibility that the sample might include multiple subpopulations with distinct average scores on a set of parameters (Morin et al., 2016). Therefore, person-centric approaches describe multiple subpopulations separately; variable-centric approaches describe the entire sample together. When research questions suggest the existence of identifiable subpopulations, a person-centric approach is appropriate (Howard & Hoffman, 2018). With this approach, different subgroup personality profiles can be established and distinguished from each other with regards to their standing on levels of profile indicators (Marsh et al., 2009). Additionally, a person-centric approach can also explore potential outcomes of distinctive subgroups that are different in their combination of personality traits (Craig & Smith, 2000). As such, many questions that were unanswered in prior research can be addressed using this approach. Due to person-centric approaches' ability to identify distinct

subpopulations, these methods (i.e., cluster analysis and latent profile analysis) can facilitate inductive theory building and have been used to expand our understanding of groups of individuals pertaining to variables heavily studied with the more traditional variable-centric approach, such as turnover (Woo & Allen, 2014), commitment (J. P. Meyer et al., 2013), leadership (Bray et al., 2014), and emotional labor strategies (Gabriel et al., 2015).

Using a person-centric approach to examine configurations of personality traits is important because most jobs are complex, so distinct personality configurations may differentially correspond to particular combinations of job performance requirements (Chatman et al., 1999). This approach thus allows researchers to consider the personality profile of the person as it relates to the specific job requirements. Based on this approach, several attempts have been made to organize groups of participants into profiles based on their personality trait configurations. A three-profile structure is typically found in these studies (e.g., Dennissen et al., 2007; Robins et al., 1996; Specht et al., 2014). The first profile is called Resilients and it refers to people that have above-average levels on all five personality traits. Resilients are adaptable and interpersonally successful, and they tend to control their emotions and impulses well. The second profile is called Overcontrolled and it is characterized as below average Emotional Stability and Extraversion. These individuals are often uptight and uncomfortable around strangers because they control their emotions too much. The last profile is called Undercontrolled and it is described as below average Emotion Stability and

Conscientiousness paired with above-average Extraversion. These individuals are usually impulsive and have difficulty controlling their emotions and impulses. What distinguishes Undercontrolled and Overcontrolled is how they cope with problems. While both profiles are on the low end of Emotional Stability, the Overcontrolled group pairs this trait with a low level of Extraversion. Therefore, the Overcontrolled group tends to internalize problems (i.e., inner-directed and generating distress in the individual). In contrast, the Undercontrolled group pairs low Emotional Stability with an above-average level of Extraversion, so they are more antagonistic and tend to externalize problems (i.e., outer-directed and generating discomfort in others; Robins et al., 1996; Pilarska, 2018). In terms of social interactions, Overcontrollers may enjoy alone time and prefer to have only a couple of close social relationships, whereas Undercontrollers may be more energetic and assertive, but also respond more dramatically to stressful events (Asendorpf et al., 2001; McCrae & Costa, 1987).

The RUO (i.e., Resilients, Undercontrollers, and Overcontrollers) typology has been found in many datasets, even though they may be named differently. For example, Fisher and Robie (2019) used a Latent Profile Analysis (LPA) approach to analyze archival data from the myPersonality project, which has 3,137,694 Facebook user's data on the FFM traits. They found that the three profile structure fits the data the best, and from a socio-analytic perspective, they named the profiles as Maladaptive (below average Openness, Extraversion, Agreeableness, and Emotional Stability paired with slightly above average Conscientiousness),

Adaptive (average scores on all five traits), and Highly Adaptive (above average scores on all five traits). Even though named differently, descriptive statistics in Fisher and Robie (2019) showed that the Highly Adaptive profile is equivalent to Resilients and the Maladaptive profile is close to Overcontrolled in previous studies. Notably, the three profiles in their study did not differ substantially in Openness, which was not surprising given the heterogeneous structure of Openness, its broadness as a personality dimension, and the loss of information and validity in aggregating the sub-facets into a general dimension (Ashton, 1998; B. Griffin & Hesketh, 2004; Mussel et al., 2011; Woo et al., 2014). Additionally, Fisher and Robie (2019) discovered an Adaptive profile that has average scores on all five traits, indicating that there may be more profiles in the population. This Adaptive profile was also discovered by Gerlach et al. (2018) and called "Average", as well as by Kinnunen et al. (2012) and called "Ordinary."

Although the RUO profiles are common, these three profiles are not always found in all datasets (Asendorpf, 2002), which reflects a profile inconsistency issue in person-centric personality research. Additional profiles have appeared in other studies instead of the classic RUO. For example, researchers sometimes find a "Nondesirable" profile that has a pattern of trait levels opposite of the Resilient type, such that it has low levels on all the five traits (e.g., B. Griffin & Hesketh, 2004; Grumm & von Collani, 2009). In a large military sample, an Amiable profile (i.e., above-average Agreeableness and Extraversion paired with lower than average Conscientiousness and Openness) and a Conscientious/Disagreeable

profile (i.e., above-average Conscientiousness and Openness paired with lower than average Agreeableness) emerged (Conte et al., 2017). The reason for the inconsistent results of personality profiles may be threefold. First, sampling error may affect the ability of researchers to detect certain personality profiles, and certain profiles are likely to be under-represented in many convenience samples because of sampling limitations such as age or industry. Second, the methods used to identify profiles were inconsistent, as some studies used resampling methods while others did not. An LPA might be suitable to address this issue. However, LPA performs better with large samples (e.g., Ns > 1000; Muthen & Muthen, 2000; Vermunt & Magidson, 2002). Third, the source of the personality ratings may influence the replicability of the three profiles, as informant, self-reports, and behavioral ratings may produce different results (Donnellan & Robins, 2010).

Additionally, the levels of RUO profile indicators showed notable variability across previous studies (Herzberg & Roth, 2006), further implying there might be more profiles in the population. Across seven studies that used cluster analysis, Herzberg and Roth (2006) found that only the level of Emotional Stability for Resilients and Overcontrollers were consistent; other traits, such as Extraversion and Openness, varied between *z* scores of -0.25 to above 0.50. More specifically, while the majority of the studies described Undercontrollers as medium on Emotional Stability paired with medium to high scores in Openness (Herzberg & Roth, 2006), Robins et al. (1996) described them as low in Emotional Stability paired with low Openness. Such inconsistent trait configurations across

studies may disguise the emergence of new profiles in addition to RUO. It also obstructs the comparability of one's own research with other published studies.

Given the variations in total numbers, structures, and levels of profile indicators of personality profiles in previous research, the current study adopts a person-centric approach using LPA to analyze a large archival dataset (N = 53,046) to replicate and expand on personality profiles that were found in previous research. Specifically, because the RUO profiles have often been found across different ages, raters of profile indicators, and languages (Asendorpf, 2015), we expect to see the emergence of these three profiles in our data.

Hypothesis 1(a). Resilients who have above-average scores on Openness, Conscientiousness, Extraversion, Agreeableness, and Emotional Stability will emerge as a personality profile.

Hypothesis 1(b). Overcontrolled who have below-average Emotional Stability, Extraversion, and Openness scores paired with average scores in Agreeableness and Conscientiousness will emerge as a personality profile.

Hypothesis 1(c). Undercontrolled who have below-average Agreeableness, Conscientiousness, and Emotional Stability, paired with above-average Extraversion and average Openness will emerge as a personality profile.

We also propose that additional personality profiles may emerge in the current study because (a) we have a wide range of participants that vary in age, gender, ethnicity, professional specialty, and industry, and (b) previous studies have also revealed other profiles beyond RUO. Based on a sample of leaders, for

example, Parr et al. (2016) found a six-profile solution using latent class analysis. Most of their profiles did not replicate previous research, partly because leaders tend to have higher levels of Extraversion as they are sociable and dominant (Derue et al., 2011; Judge et al., 2002). The first profile they found was called the Unpredictable leaders with Low Diligence, and they were characterized by low Emotional Stability, Agreeableness, and Conscientiousness. The second profile, Conscientious and Backend leaders, have high scores on Conscientiousness with low scores on Agreeableness and Extraversion, which is similar to the Overcontrollers. The Unpredictable leaders have low Emotional Stability and Agreeableness. The creative Communicators have high Extraversion and Openness but low Conscientiousness. The Power Players resemble the Resilients in that they have high scores on all five traits, which is also the most common personality profile among the leaders. Lastly, the Protocol Followers are individuals who have high scores on both Emotional Stability and Conscientiousness. Parr et al. (2016) results show that more diverse profiles may exist in the population.

Thus, we expect to find more personality profiles in addition to RUO, because our large and diverse sample may allow for the emergence of profiles that are underrepresented in the general population and thus not typically found in previous research. Also, it appears that expanding the sample to include people from different countries and across industries can increase the number and diversity of personality profiles found (e.g., Gerlach et al., 2018; Kinnunen et al., 2012; Zhang et al., 2015). Therefore, the current study examines whether expanding the

sample to a global one will help us to discover more profiles in the population and organize the personality profiles into a unified framework with supporting empirical evidence.

Research Question 1. Are there additional personality profiles beyond RUO?

Personality Profiles and Outcomes

After identifying the profiles, most research will examine if there are significant differences among profiles in outcome variables. For the RUO profiles, Resilients are considered as the "ideal" profile because it is often positively associated with desired outcomes and negatively associated with undesired ones (e.g., Asendorphf et al., 2001; Robins et al., 1996; Fisher & Robie, 2019). For example, the three profiles are differentially linked to a variety of developmental outcomes in adolescence. The Resilients outperformed Undercontrolled and Overcontrolled in high school performance and global self-esteem, and they had lower levels of hostile attribution (Asendorpf et al., 2001; Robins et al., 1996). Resilients were also free from both internalizing and externalizing problems, which were the two strategies used by Overcontrolled and Undercontrolled groups, respectively. The Undercontrolled group also had lower IQ scores, lower achievement in school, worse conduct, and more juvenile delinquency than the Overcontrolled and Resilient groups (Robins et al., 1996).

The advantages of the Resilients have been found to hold even when controlling for the effects of age, as age was found to be positively associated with

the Overcontrolled and negatively associated with the Undercontrolled profiles (Isler et al., 2017). Also, the Resilient profile scored the highest on wellbeing, perceived quality of interethnic relations, social dominance orientation, and openness to change values, whereas the Undesired (called the Brittle profile in Isler et al., 2017) scored the lowest on those outcomes. Compared to the Overcontrolled, the Undercontrolled profile demonstrated a higher level of openness to change values, which is consistent with the Undercontrolled profile's general tendencies of being spontaneous and sensation seeking (Isler et al., 2017). Additionally, in a three-wave longitudinal study where participants were measured at 32, 42, and 50 years old, Kinnunen et al. (2012) found that the Resilients consistently had the best self-rated health and the Overcontrolled the worst.

In a sample of organizational leaders with an average of 14 years of experience, the Resilients had the best overall performance outcomes on three leadership performance factors that were rated in assessment centers (Parr et al., 2016). Specifically, the Resilients (called the Power Players) had the highest scores on building partnerships and translating the message, and the second-highest scores on defining and executing the strategy. On the other hand, other profiles may have advantages on some performance outcomes but disadvantages on others. For example, the Conscientious and Backend Leaders (i.e., emotionally stable and diligent but less agreeable and social, similar to Overcontrollers) scored the highest on defining and executing the strategy, but lowest in building partnerships and translating the message (Parr et al., 2016).

Similar findings regarding RUO's relationship to other workplace performance outcomes were also observed in Army recruits. Conte et al. (2017) found that supervisor-rated Soldier performance differed significantly regarding discipline performance but not effort performance. Specifically, Discipline ratings were higher for Resilients than other profiles, and the Conscientious/Disagreeable profile had higher Discipline ratings than the Undercontrolled group. Additionally, the Overcontrolled and Undercontrolled groups have significantly higher 24-month attrition than Resilients. Moreover, Resilients have the highest retention rate while Undercontrolled have the lowest.

The Resilients also showed pervasive advantages in mental health outcomes. In a study of 387 college students, the Resilients reported higher positive affect and lower negative affect than other groups (Merz & Roesch, 2011). For other psychological outcomes, results showed that the Resilients' self-esteem and coping efficiency scores were the highest, and depression and anxiety scores were the lowest. Regarding anxiety scores, Overcontrolled (called Reserved) had lower scores than the Undercontrolled profile (called Excitable; Merz & Roesch, 2011). These results are similar to another study, which found that Undercontrollers and Overcontrollers have lower self-esteem than Resilients (Asendorpf, 2002; Pulkkinen et al., 2000).

Results for RUO's influence on mental health outcomes were replicated in other countries outside the U.S. Based on a sample of Polish college students and cluster analysis, Pilarska (2018) found that Resilients reported higher self-control

and pride in self and behavior than Overcontrollers and Undercontrollers. Overcontrollers reported lower self-esteem and higher shame-proneness than the other two profiles, which reflects their tendency to internalize problems. Undercontrollers reported lower guilt-proneness than the other two profiles and higher externalization (i.e., externalize blame) than Resilients and higher detachment than Overcontrollers (Pilarska, 2018).

In terms of general life outcomes, based on a very large sample of Facebook users and the LPA technique, Fisher and Robie (2019) found that Resilients (called Highly Adaptive) have the highest level of satisfaction with life, job self-efficacy, and passion towards work, and more favorable value systems from a human evolution perspective such as Achievement, Benevolence, and Self-direction. People in the Average (called Adaptive) profiles had lower scores on these outcomes, and the Maladaptive profile (with low scores on all five traits) had the lowest scores on the life outcomes.

Previous findings linking RUO with various outcomes showed substantial validity, particularly in terms of long-term real-life outcomes (e.g., Asendorpf & Denissen, 2006; Caspi et al., 1996; Chapman & Goldberg, 2011; Hart et al., 2003; Meeus et al., 2011). In sum, Resilients show desirable traits to succeed in every aspect of human life; Overcontrollers show internalizing tendencies, such as low social self-esteem, high anxieties, and depressive tendencies; and Undercontrollers show externalizing tendencies, such as high aggressiveness and antisocial behavior (Asendorph, 2015). However, very few studies have linked personality profiles to

workplace performance outcomes. Among the few studies that examined the FFM profiles' impact on workplace outcomes, the generalizability of the study results was doubtful, because of disproportional gender distribution in the sample and a lack of measurement of performance outcomes (Perera et al., 2018), or the use of a military sample that may have unique personality characteristics which could preclude drawing inferences for civilians (Conte et al., 2017). The current study examines personality profiles' effect on various performance outcomes so we can gain a better understanding of its effect in the workplace.

We base our hypothesis related to Resilients on their pervasive advantage in the positive associations with desired outcomes and negative associations with undesired outcomes. In the comparison of Undercontrollers and Overcontrollers, we focus on the performance factor in Campbell's taxonomy (Campbell & Wiernik, 2015) that emphasizes self-discipline and self-control, as Overcontrollers can exercise self-restraint better than Undercontrollers. We thus propose that:

Hypothesis 2. Resilients will have higher scores than Undercontrollers and Overcontrollers across all performance dimensions.

Hypothesis 3. Overcontrollers will have higher scores than Undercontrollers on performance dimensions that are related to Initiative, Persistence, and Effort in Campbell's taxonomy.

For the other performance dimensions in our archival data, we do not have any a priori hypotheses in comparing Overcontrollers to Undercontrollers. Therefore, we propose the following research question:

Research Question 2. Will Overcontrollers and Undercontrollers have distinct scores on other performance dimensions in Campbell's taxonomy?

Expecting to find additional profiles beyond RUO, we also propose the following research question:

Research Question 3. Will other (non-RUO) personality profiles in the current study have distinct scores on performance dimensions?

Personality at the Facet Level

Facets

The structure of personality traits is hierarchical and the dimensions of the FFM are among those of the highest order (Goldberg, 1992; Saucier & Ostendorf, 1999). These FFM traits are multi-facet collections of cognitive, affective, and behavioral tendencies, and the tendencies can be grouped in many different ways (Costa & McCrae, 1995). Within each of the FFM traits, there are two distinct yet related sub-dimensions called *aspects*, which represent an intermediate level of personality structure between traits and the narrower level of sub-dimensions (DeYoung et al., 2007). At a level narrower than aspects, sub-dimensions that share commonality but also contain specific variance are called *facets*, and six facets per trait have been proposed based on a review of the literature (Costa & McCrae, 1995). This is not to say that facets relate to only one FFM trait, but rather that the relationships with other facets nested under the same trait tend to be stronger (Goldberg, 1992; Leatta M. Hough & Schneider, 1996). Lastly, at the item level, recent research shows that statements in the personality inventory used to describe the trait or facet that it is measuring represent a meaningful level of personality

nuances that is below facets (Mõttus et al., 2017). These nuances add incremental validity above and beyond facets in predicting specific outcomes such as body mass index, interest in attending games, finding patterns, and being fascinated by music (Mõttus et al., 2017).

The aspects for each FFM trait differentiate two sub-dimensions within each trait that might have distinct characteristics and impacts on outcomes, each subsuming multiple facets for that trait (DeYoung et al., 2007). Emotional Stability is divided into Volatility and Withdrawal, and these aspects predispose people's attention to threat and punishment but are different in characterizing how people tend to cope with such stimuli. Withdrawal is inward, and it encompasses tendencies related to anxiety and depression, which are negative affect that is internalized by an individual (i.e., similar to Overcontrollers' strategy). Volatility encompasses traits related to anger and panic, which are outward expressions of, or externalization of, a person's negative affect (i.e., similar to Undercontronllers' strategy). Agreeableness is divided into Compassion and Politeness, with Compassion representing one's emotional affiliation with others and Politeness focusing on a more reasoned consideration of and respect for others' needs and desires. Conscientiousness is divided into Industriousness and Orderliness, with Industriousness being more self-focused, proactive, and achievement-oriented, and Orderliness more other-focused, inhibitive, and rule compliant (Costa et al., 1991). Extraversion is divided into Enthusiasm and Assertiveness. Enthusiasm covers the positive emotions of Extraversion, and it also describes the outgoing friendliness of

this trait. Assertiveness represents an individual's tendency to seek power and dominance in general. Openness is divided into Intellect and Openness. Intellect describes how intellectually curious a person is and how much abstract thinking that person enjoys. The Openness aspect encompasses characteristics such as how imaginative and artistic an individual is, and how easily accessible one's feelings are (DeYoung et al., 2007).

At a lower level, there are six facets within each FFM trait, and understanding the facets can help us to understand the FFM traits better (Costa & McCrae, 1995). It is important to study facets because they show enough discriminant validity to predict different behaviors, independently of the general trait they are categorized under (Costa & McCrae, 1998; Paunonen & Ashton, 2001). In some research, the facet-level analysis accounts for a greater amount of explained variance than trait level analysis (e.g., Steel et al., 2008). Facets have been developed based on literature reviews of previous FFM research (Costa & McCrae, 1992), and different personality studies may name the same or similar facets differently.

Emotional Stability facets are Anxiety, Hostility, Depression, Self-consciousness, Impulsiveness, and Vulnerability. Anxiety describes the tendency to feel that something unpleasant, threatening, or dangerous is about to happen. Hostility is also called Anger (e.g., Hastings & O'Neill, 2009; Pletzer et al., 2020), and it describes the tendency to feel angry in general. Depression refers to the tendency to react more strongly to life's ups and downs. Self-consciousness refers

to the tendency to be sensitive about what others think, and people scoring high on this facet tend to be concerned about rejection and ridicule, which causes them to feel shy and uncomfortable around others. Impulsiveness is also called Immoderation (e.g., Hastings & O'Neill, 2009; Pletzer et al., 2020) and refers to people's strong cravings and urges that they have difficulty resisting, even though they know they are likely to regret them later. Lastly, Vulnerability describes the tendency of having difficulty coping with stress. People who score high on Vulnerability tend to experience panic, confusion, and helplessness when under pressure or when facing emergencies (Costa & McCrae, 1992).

Openness facets are Fantasy, Aesthetics, Feelings, Actions, Ideas, and Values. Fantasy is also called Imagination (e.g., Johnson, 1994), and it refers to the tendency to view the real world as often too plain and ordinary, such that people scoring high on Fantasy tend to create a richer and more interesting inner-world for themselves. Aesthetics is also called Artistic (Saville et al., 1984), and it refers to the tendency to love beauty both in art and nature so that people who score high on this facet become easily involved and absorbed in artistic and natural events. Feelings is also called Emotionality (e.g., Goldberg et al., 2006), and it refers to the tendency to have good access to and awareness of one's feelings. Actions is also called Adventurousness (e.g., Goldberg et al., 2006) or Curiosity (e.g., R. Hogan & Hogan, 1992), and it describes the eagerness to try new activities and experience different things so that people who score high on this facet tend to find familiarity and routine boring. Ideas is also called Intellectual Efficiency (e.g., Woo et al.,

2014) or Intellect (e.g., Hofstee et al., 1992), and people who score high on this facet are intellectually curious and tend to think in symbols and abstractions. Values is also called Liberalism (e.g., Goldberg et al., 2006) or Tolerance for Diversity (e.g., Jackson et al., 1996); it refers to the tendency to be ready for challenging authority, convention, and traditional values (Costa & McCrae, 1992).

Agreeableness facets are Trust, Straight Forwardness, Altruism, Compliance, Modesty, and Tender-mindedness. Trust refers to the tendency to attribute benevolent intent to others. Straight Forwardness describes a person's directness and frankness in their interactions with others. Altruism refers to one's selflessness and concern for others. Compliance describes a tendency in handling interpersonal conflicts involving deferring to others instead of fighting. Modesty describes a person's self-concept, and modest people are not preoccupied with themselves. Tender-mindedness refers to the tendency to be guided by feelings, such as sympathy, in making judgments and forming attitudes (Costa & McCrae, 1992).

Extraversion facets are Friendliness, Positive Emotions, Sociability, Activity Level, Excitement Seeking, and Assertiveness. Excitement Seeking is also called Sensation Seeking (e.g., Zuckerman & Neeb, 1979), and reflects a need to pursue excitement and stimulation and a willingness to take risks. Activity Level describes a person's tendency to live a fast-paced and busy life. People who score high on Activity Level tend to do things and move about quickly, energetically, and vigorously, and they are involved in many activities. Assertiveness describes the

tendency to take charge and direct the activities of others, and people who score high on this facet tend to be leaders in groups. Positive Emotions describe the tendency to experience a range of positive feelings such as happiness, enthusiasm, optimism, and joy. Friendliness is also called Warmth (e.g., Hofstee et al., 1992), and it describes the tendency to genuinely like other people and openly demonstrate positive feelings toward others. Sociability is also called Gregariousness (e.g., Hofstee et al., 1992), and it describes how much a person enjoys the excitement of crowds and the tendency to find the company of others pleasantly stimulating and rewarding (Costa & McCrae, 1992).

Conscientiousness facets are Competence, Orderliness, Dutifulness, Achievement Striving, Self-discipline, and Deliberation. Competence describes the belief that one can affect one's environment in positive ways and solve problems that arise, and it is closely related to measures of self-esteem (Costa et al., 1991). Orderliness refers to the level of a person's organizational skills, such as keeping one's living- and work-spaces organized. Dutifulness describes the tendency to feel a sense of duty and obligation in one's personal and work lives. Achievement Striving refers to one's motivation to put great effort toward achieving a goal. Self-discipline describes one's capability in regulating one's behavior to achieve goals. Lastly, Deliberation describes the tendency to be cautious, planful, and thoughtful (Costa & McCrae, 1992).

The facets have been supported by evidence for discriminant validity, they each represent a unique perspective on the associated FFM trait, and they also

function differently in predicting workplace outcomes (e.g., Wilmot et al., 2019). Studying facets can contribute to personality theories, model building, and validity (Oswald & Hough, 2011). Most importantly, because facets are differentially related to workplace criteria and some have higher predictive validity than their global traits, research conducted at the facet level can yield both theoretical and practical recommendations.

Archival data for the current study contains personality measured at the facet level. The personality model for the archival data has 15 *Aspects*, which are equivalent to facets in the FFM. Additionally, among the 15 Aspects, 10 have been theoretically linked to the FFM traits. For example, an Aspect called Liveliness that focuses on the extent to which an individual is socially outgoing and draws energy from interactions with others is theoretically mapped to Extraversion. The characteristic of enjoying social interactions for Assertiveness closely resembles the definition of the Sociability facet of Extraversion. Table 1 lists the definitions of 15 Aspects as well as which 10 are mapped to the FFM.

Facet Profiles

An important issue in understanding relationships between personality and performance involves the relative merits in the predictive power from using broad-band versus narrow-band personality measures, which is often called the bandwidth-fidelity dilemma (Ones & Viswesvaran, 1996; R. J. Schneider et al., 1996). Bandwidth refers to the complexity of information gained from a measure, and fidelity refers to the quality of that information (Cronbach & Gleser, 1957; J. Hogan & Roberts, 1996). By using a broad bandwidth, a measure gathers a large

amount of information but loses fidelity. However, by using a high-fidelity, low-bandwidth measure, less information is collected but there is an increase in the quality of that information (Hogan & Roberts, 1996). Current personality profiles are fairly broad classifications because the profile indicators are at the highest level of the FFM model. This helps us to classify and organize people at a high level of abstraction. However, similar to the bandwidth-fidelity dilemma in the FFM (Ones & Viswesvaran, 1996; Schneider, Hough, & Dunnette, 1996), exploring personality profiles at a lower level can help researchers to understand the way personality traits are organized and integrated within individuals and thus why people react differently to common events at a more granular level (Conte et al., 2017; Donnellan & Robins, 2010).

Costa and McCrae (1995) recommended a particular strategy to interpret a personality profile, which is to first interpret the combinations on the broad traits, and then the facet level combinations within each trait, and lastly the facet's contribution to the total trait score. For example, a person may be frustrated by a high need for achievement but a poor capacity for self-discipline, which are two facets of Conscientiousness (Costa & McCrae, 1998). This strategy helps to explain an individual's standing on each trait, and the major driving facets that contribute to the standing. However, there are two limitations to this strategy. First, this strategy might mask the unique combinations among the facets because facets that reside in different traits are not combined for interpretation. Second, analyzing the facet's contribution to the total trait score is only helpful in interpreting within-trait

combinations of facets. To build facet personality profiles, scores for each facet are needed to derive a comprehensive list of various facet combinations across all the FFM traits.

Although there is no existing research that builds personality profiles at the facet level, some combinations are less likely to emerge according to the characteristics of the facets. For example, when a person has high scores on Conscientiousness facets, it indicates that the individual is self-disciplined and rule-following. Therefore, it is unlikely that this individual will also score high on Impulsiveness, a facet of Emotional Stability that refers to a person's difficulty with self-control. Similarly, when a person scores high on Agreeableness facets, the tender-minded and benevolent nature of this individual makes it unlikely for him/her to also feel angry all the time and score high on the Hostility facet of Emotional Stability (Costa & McCrae, 1995).

Regarding facet profiles that are more likely to emerge, past research found that even though Conscientiousness is typically positively related to Emotional Stability, its facet, Orderliness, was negatively related to Emotional Stability (DeYoung et al., 2007). As extreme levels of Orderliness are similar to obsessive-compulsiveness (Samuel et al., 2012), the obsession around cleanliness and order might often combine with a person's tendency to feel anxious and impulsive, such that any deviation from the status quo or routine might disturb the individual significantly. Additionally, aspects such as Assertiveness, Intellect, and Industriousness are strongly intercorrelated (average correlation coefficient is .46 in

DeYoung et al., 2007). Therefore, a profile that has high scores on these three aspects is likely to emerge, and this group of people can be described as power-seeking, personal achievement-oriented, and open-minded for innovative ideas. On the other hand, Assertiveness and Politeness were negatively related (r = -.37; DeYoung et al., 2007), so profiles that have a high score on Assertiveness and a low score on Politeness (e.g., an inconsiderate and self-serving leader), or a low score on Assertiveness and a high score on Politeness (e.g., an easygoing and compassionate co-worker) are likely to emerge.

Even though the final profiles were based on the FFM traits as indicators, Conte et al. (2017) reported facet scores of each FFM trait for each profile. According to their results, Resilients have above average scores on Conscientiousness facets (Achievement, Non-delinquency, and Order), one of the Agreeableness facets (Cooperation/Trust), Emotional Stability facets (Well-Being/Optimism and Even-tempered), and one of the Openness facets (Tolerance). Also, Resilients have lower than average scores on both Extraversion facets (Dominance and Attention-Seeking/Excitable). The Overcontolled group has lower than average scores on all the facets. The Undercontrolled group has lower than average scores on all the facets, except for the Extraversion facets where this profile is above average. The two unique profiles in Conte et al. (2017) also showed interesting patterns at the facet level. For the Amiable group (7% of the sample), people have lower than average scores on Conscientiousness, Openness, and Emotional Stability facets. And they scored above average on all

Agreeableness facets and Attention-Seeking but lower than average on Dominance (two facets of Extraversion). Amiable is the opposite of the Conscientious/Disagreeable profile (33% of the sample), in which people scored above average on all Conscientiousness, Openness, and Emotional Stability facets. And they scored below average on Agreeableness facets and Attention-seeking but above average on Dominance.

Furthermore, indirect evidence supporting the emergence of facet level profiles can be found in validation studies of the International Personality Item Pool (IPIP; Goldberg et al., 2006). For example, as part of the validation project of a Polish version of the IPIP-Values in Action questionnaire, Najderska and Cieciuch (2018) found three profiles using Peterson and Seligman's (2004) 24 character strengths as profile indicators. In their sample, the 24 character strengths were mapped to four traits of the FFM, excluding Emotional Stability. For example, they categorized Teamwork and Social Intelligence to a higher-level factor called Emotional/Interpersonal, and this factor was mapped to Extraversion in the FFM. They identified three profiles based on the 24 character strengths. The first profile is called Socialization and it depicts people who score high in honesty, fairness, kindness, judgment, spirituality, prudence, and modesty. People in the Socialization profile are good at building interpersonal relationships and being part of a social group (Najderska & Cieciuch, 2018). These characteristics are similar to the facets of Agreeableness. People in the second profile have average scores on all the character strengths, and there was not a specific set of dominant strengths to

characterize them; thus, the second profile did not receive a name from the authors. The third profile is called Personal Growth and it depicts people who score high in love, curiosity, perspective, humor, love of learning, leadership, social intelligence, hope, zest, creativity, and bravery (Najderska & Cieciuch, 2018). People in the Personal Growth profile strive for personal, intellectual, and social skill development, but they are also loving and have a good sense of humor (Najderska & Cieciuch, 2018). These characteristics are similar to Tender-mindedness, Assertiveness, Achievement Striving, and Intellect.

Taken together, these previous findings of facet-facet relationships and related profiles imply that there is a potential for unique facet combinations in forming personality profiles that may reveal more refined information about different subgroups, compared to the RUO profiles or those that are built on the FFM traits. Therefore, the current study intends to explore this issue.

Research Question 4. Are there personality profiles at the facet level that are qualitatively or quantitatively distinct from each other?

Personality-Performance Relationships at the Facet Level

Several considerations suggest moving to the facet level may be useful for understanding the personality-performance relationship. First, the prediction of job performance by the use of narrow measures of personality might be higher compared with broad measures because broad measures are too general to predict certain specific job criteria (Block, 1995; Leaetta M. Hough, 1992; Rothstein & Goffin, 2006). Therefore, matching the components of the predictor with the components of the criterion with the highest theoretical and empirical relationships

should yield optimal criterion-related validity. For example, facets related to responsibility and risk-taking were better predictors of workplace deviance than the broad traits of Conscientiousness and Agreeableness (Ashton, 1998). From a statistical perspective, when a subdimension of the broad FFM trait has a negative relationship with a subdimension on the criterion side (while the other subdimensions have positive relationships), aggregating the subdimensions to a predictor and a criterion composite can result in a weakened observed personality-performance relationship (Paunonen et al., 1999). A recent meta-analysis reviewed the relations of Extraversion's lower order facets with 58 variables (Wilmot et al., 2019). The study found that while most of the facets positively contribute to an individual's workplace performance and interactions with others, the Sensation-seeking facet negatively contributes to these outcomes. Thus, even though Sensation-seeking accurately predicts work outcomes, combining this facet with others could reduce the overall Extraversion-outcome relationships. Even when multiple facets positively predict a work outcome, they may differentially predict different aspects of the outcome. For example, while both Enthusiasm and Assertiveness predict leadership effectiveness, Enthusiasm contributes more to person-oriented behaviors and Assertiveness contributes more to task-oriented outcomes (DeYoung et al., 2015; Wilmot et al., 2019). Without measuring facet level subdimensions, we might not have enough evidence for predictive validity in linking personality traits to specific job criteria.

Second, the behavioral explanatory power of the predictor-criterion relationship is reduced when using a broad-band personality compared with narrow-band subdimensions (Paunonen et al., 1999). For example, even though Conscientiousness, a broad-band personality trait, predicts job performance with a moderate level of validity, we know less about the extent to which it is one facet, a couple of facets, or all facets of Conscientiousness that are predictive of the criterion. The best conclusion we have is that people who score higher on Conscientiousness are better performers; it is less clear if this is because these people are dependable, organized, persistent, or all three. The advantage of using the narrow-band measures is that when they are found to be predictive of some aspects of work behavior, we can make more detailed personality-work behavior connections confidently, especially when we match the subdimensions to the performance criteria theoretically (Hurtz & Donovan, 2000). For example, Dudley et al., (2006) found that, although facets of Conscientiousness did not contribute substantial incremental validity in the prediction of overall or task performance, they did contribute substantially in the prediction of extra-role behaviors including job dedication, counterproductive work behaviors, and interpersonal facilitation. In addition, a meta-analytic study (Hurtz & Donovan, 2000) showed that for Conscientiousness, each facet was predictive of different job performance criteria and they were correlated with global Conscientiousness from a moderate to a high level. Specifically, Achievement has the highest predictive validity for task performance. Dependability has the highest predictive validity for job dedication,

interpersonal facilitation, and CWBs. Order positively predicts overall job performance, task performance, and job dedication. And Cautiousness has the lowest correlation with global Conscientiousness and Achievement among all other facets, it negatively predicts CWBs, and it positively predicts task performance. A similar trend was observed for Extraversion. Hough's (1992) study showed that two sub-dimensions, Affiliation and Potency, differentially predicted a set of job performance criteria. Potency was a more valid predictor of overall job proficiency, sales effectiveness, and irresponsible work behavior. Affiliation was a stronger predictor of technical proficiency (Hough, 1992).

Third, inconsistent findings for personality-performance relationships might be the result of aggregating scores of, or not measuring, narrow-band subdimensions. For example, Hough (1992) found that when Extraversion was split into Potency and Affiliation, only Potency was related to teamwork. Barrick and Mount (1991) reported that Extraversion was uncorrelated with the performance of wholesale sales representatives. Stewart and Carson (1995) found an inverse relationship between Extraversion and performance in service jobs. Salgado (1997) reported that Extraversion was the only personality factor in his meta-analysis for which the unexplained variance was greater than the explained variance in overall job performance. Mount et al. (1998) concluded that Extraversion inconsistently predicted performance, even for jobs involving substantial interpersonal interaction. However, Vinchur et al. (1998) found that Potency and Achievement substantially outperformed the affiliation subdimension for predicting both

objective and subjective sales criteria. These inconsistent and sometimes confusing results may be reflective of the phenomenon that when Extraversion was measured at a broad level, only certain aspects of it are predictive of certain outcomes. This is even more obvious with Openness. While some researchers consider Openness as the least important FMM trait for predicting occupational outcomes, the correlation with task performance increased from .07 for global Openness to .18 for the Ingenuity facet (Woo et al., 2014). Also, results showed that Openness facets might exhibit differential validity for many organizational outcomes. For example, Ingenuity showed relatively stronger relationships with task performance, leadership effectiveness, and adaptive performance, whereas intellectual efficiency appeared to predict turnover particularly well in comparison with other facets.

Facet Profiles and Performance

Research has yet to explore personality profiles' influence on work outcomes at the aspect or facet level. However, there appears to be practical interest in this idea, as some organizations have been searching for candidates who have specific facet profiles to fit specific work roles (Werbel & Gilliland, 1999). For example, some companies may seek employees who are high on Achievement and low on Conformity (e.g., marketers for start-up companies) or, conversely, others may look for employees who are lower on Achievement but high on Conformity (e.g., security monitors).

Although research has not examined this issue directly, there is some indirectly relevant evidence. In particular, trait level profiles combine information

in meaningful ways and allow us to make more powerful yet broad inferences about personality traits and correlates. Facet level profiles are best at predicting the specific criteria at which they are aimed, but less than optimal at predicting other, albeit related criteria. Therefore, recent research examined different weightings given to each facet when creating composite scores of a personality trait and it did improve the predictive validity to some degree. For example, O'Neill and Steel (2018) observed that personality facets within the same factor are often differentially related to criteria; thus, they examined whether differential weighting of facets may be more advantageous than unit weighting. Based on SME ratings of each facet's relevance to different criteria (rational weights) and cross-validated weights based on OLS regression results (mechanical weights), O'Neill and Steel (2018) gave different weights to personality facets when creating composite trait scores. Their results showed that both rational and mechanical weighted personality facet composites led to superior predictive power for each trait, compared to unit weighted facet composites. Therefore, this lends support to the possibility that facet personality profiles might relate to performance outcomes differently than trait personality profiles. However, O'Neill and Steel's (2018) regression weight approach has some limitations compared to using facet profiles in predicting work outcomes. The biggest limitation is that their approach ignores the combinational effect of facets across the FFM traits. Additionally, for novel or highly dynamic work roles, it is difficult to rationally or mechanically weight each facet because the criteria are always evolving. LPA is a bottom-up approach that uses empirical

evidence to inform relationships. Thus, decisions made based on LPA might be more applicable and considered as less arbitrary than regression weights.

Findings from previous research about personality facets and performance outcomes can provide us some basis for hypothesizing facet level profiles' influences on performance outcomes, based on results indicating which facets are most and least relevant in predicting certain outcomes. For example, a meta-analytic study examining facets' individual relationships with workplace deviance showed that when high scores on Agreeableness and Conscientiousness facets were paired with high scores on Excitement Seeking, Anger, and Immoderation, and low scores on Artistic interests, Emotionality, and Intellect, these people are likely to have higher workplace deviance than others (Hastings & O'Neill, 2009). Additionally, a recent meta-analytic study based on the Honesty-Humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, and Openness to Experience (HEXACO) model (Lee & Ashton, 2004) and regression results showed that all facets combined predicted workplace deviance better than all traits combined, demonstrating that important variance is suppressed when using broad traits as predictors. However, out of the 24 facets of the HEXACO model, only nine of them are necessary to achieve almost the same amount of explained variance in workplace deviance as when using all 24 facets (Pletzer et al., 2020). Therefore, these results suggest that in predicting workplace deviance, focusing on profiles of key personality facets that are most predictive of this outcome, especially profiles that have extreme levels on these facets, may be useful.

When the facet results are consistent with their nested trait's relationship with the outcomes, the key is to find the facets that contribute the most to those relationships and to draw inferences for individuals who have high or low scores on these facets. For example, high scores on Dutifulness, Achievement Striving, Ingenuity, Influence, as well as Dominance are positively associated with leadership (Christian et al., 2011; Marinova et al., 2013; Woo et al., 2014). These facet results are consistent with trait level results, such that Extraversion and Conscientiousness are the most consistent personality traits in predicting leadership (Judge et al., 2002). Thus, it is possible that individuals who have high scores on these facets might be better in performing leadership-related jobs.

On the other hand, when facet results do not align with their nested trait's relationship with the outcomes, facet profiles can help to distinguish specific combination patterns that might be more closely associated with the outcomes. Take overall performance as an example. Extraversion facets, except for Sensation-seeking, have been shown to be positive predictors (Wilmot et al., 2019). Even though Conscientiousness facets positively relate to performance (e.g., Salgado et al., 2015), there is a strong theoretical link between Conscientiousness facets and obsessive-compulsive tendencies, suggesting that when taken to an extreme level, certain Conscientiousness facets can become maladaptive. Research showed that Dutifulness, Self-discipline, and Cautiousness have more shared variance with obsessive-compulsive traits at higher levels, so they might be driving the curvilinear relationship between Conscientiousness and performance found in past

research (Carter et al., 2016). Therefore, a profile that has a low score on Sensation seeking, and moderately high scores on Conscientiousness facets might be more positively related to overall performance than a profile that has high scores on all Extraversion and Conscientiousness facets.

The most interesting part of the facet profile-performance relationships is to explore questions that have not been researched empirically. For example, which facets should be combined at what level to describe a profile that will be more suitable for jobs that emphasize interpersonal interactions? What about jobs that need employees to work independently with little supervision, but be flexible to accommodate team requirements when necessary? Past research has addressed these questions on a facet-by-facet basis, and the current study aims to build upon past findings to address these questions more holistically. For instance, Consideration and Empathy contribute to interpersonal effectiveness (Christiansen & Robie, 2011). Potency and Achievement Striving were predictive of objective performance for sales personnel, which relies heavily on their skills in relationship building and maintenance (Vinchur et al., 1998). Dutifulness was related to gaining trust and helping others (Marinova et al., 2013), which contribute to interpersonal interactions. Extraversion facets also have positive relationships with interpersonal variables (Wilmot et al., 2019). Thus, a personality profile with high scores on all these facets is likely to score higher on interpersonal performance outcomes. Ellershaw et al. (2016) found that Dependability, Goal Striving, Intellectual Interest, Positive Affect, and Activity were positively related to team proficiency

and individual proficiency. However, Goal Striving, Dependability, Aesthetic Interest, Positive Affect, and Activity positively related to individual adaptivity, whereas the other two facets of Openness (Intellectual interest and Unconventionality) combined with other facets were associated with team adaptivity. Thus, a profile that has high scores on the two Openness facets might be necessary for an effective individual worker to also be adaptable to the team when necessary.

Additionally, sometimes the relationship between traits and facets with outcomes is not a simple linear one, and facet profiles can help to identify individuals who might react to different stimuli differently, even though they might have the same trait scores as others. For example, there appears to be a curvilinear relationship between Conscientiousness and negative affect, such that at lower levels of Conscientiousness and its facets, increases at the trait and facet level are associated with decreased negative affect. However, at high levels of this trait and its facets, increases are associated with increased negative affect (Carter et al., 2016). Therefore, how Conscientiousness facets are paired with other facets of the FFM is important, because high or low levels on other FFM facets may exacerbate or buffer the effect of a person's standing on Conscientiousness facets and thus associate differently with that person's negative affect. Overall, these research findings lend support to the notion that different facet combinations may contribute to certain performance outcomes. Considering the complexity of facet level combinations, we address this in an exploratory fashion.

Research Question 5. Do facet level personality profiles have distinct relationships with performance outcomes?

Culture and Its Influence on Personality Profiles

Another important issue we want to address in the current study is culture's association with personality profile emergence, as well as its influence on the relationship between profiles and workplace performance outcomes. According to the plasticity principle of personality, personality traits are open systems that interact with and are influenced by environmental conditions at any age (Roberts et al., 2008). When the individual is exposed to certain environmental factors repeatedly and continuously over an extended period, the environmental factors influence the development and expression of the individual's personality (Roberts et al., 2008). Thus, culture could influence personality profile emergence because it is an important factor that is embedded in an individual's environment. For example, the most straightforward way culture could shape people's personality development is through culture's influence on socialization patterns: some cultures place an emphasis on children's independence while other cultures emphasize dependence in children's development, which influences personality trait variations in each culture (Triandis & Suh, 2002). In fact, nations with greater geographical proximity were found to have more similar scores on the FFM dimensions (Gelade, 2013), providing some support for culture's influence on personality development.

Culture is defined as "broad tendencies to prefer certain states of affairs over others" (Hofstede, 1980, p. 19) and is most often represented in shared beliefs,

values, norms, and behaviors of a particular group (Erez & Gati, 2004). It sets the norm for people's behaviors and criteria for performance. Culture is often considered as the moderator in examining the universality of existing relationships that are commonly found in research, such as the job satisfaction-job performance relationship (Ng et al., 2009). This is because understanding *when* the relationship is stronger or weaker in different cultures has practical implications for multinational organizations, such that these organizations can adjust and apply more customized managerial principles to employees that reside in different regions and cultures to increase the fit between employees and organizations, and thus enhance cohesion and productivity (Kirkman et al., 2006).

To examine culture's influences on personality, past research has examined: (a) personality trait structures across cultures, (b) cultural differences in personality trait levels, (c) measurement consistency and validity of personality traits across cultures, and (d) developmental contexts of personality from different cultures (Church, 2016). Results showed that while in general the five-factor structure of the FFM and the RUO profiles can be replicated across cultures (e.g., Alessandri et al., 2014), specific personality traits that are distinguishable from the FFM may emerge due to different local cultures (e.g., Cheung et al., 2013). Regarding trait level differences across cultures, evidence from previous studies support the FFM scores' geographical patterning and their associations with political, economic, and health outcomes (Obschonka et al., 2013). Specifically, countries that are neighbors tended to have similar personality means, and regions that are separated

geographically or historically had less similar means on personality trait scores (Allik & McCrae, 2004). Additionally, Schmitt et al. (2007) showed that the world region has a significant main effect on all five FFM dimensions across 56 nations. In terms of measurement consistency of personality traits, this has been supported by consistent trait ratings across contexts in a variety of cultures (Church et al., 2013; Katigbak et al., 2013), providing evidence for reliable personality scores across cultures. Lastly, the context in which personality traits develop may affect people's scores because cultural norms have been linked to ecological and historical threats and a variety of personality processes across different countries and different U.S. states (Gelfand et al., 2006; Harrington & Gelfand, 2014).

Among many important cultural dimensions, the current study is focused on cultural tightness-looseness (Gelfand et al., 2006) and not on others, such as collectivism-individualism (Hofstede, 1980) or uncertainty avoidance (Hofstede, 1980). This is because cultural tightness-looseness is useful in exploring the role of national culture as an environmental factor in constraining people's behavior through mechanisms of institutional pressure (DiMaggio & Powell, 1983; Oliver, 1991), which may have implications for personality and its correlates. Gelfand et al. (2006) defined cultural tightness (vs. looseness) as "the strength of social norms and the degree of sanctioning within societies" (p. 1226). The definition of cultural tightness/looseness includes the notion of strength, clarity, and pervasiveness of social norms, as well as sanctioning of norm-violating behaviors and tolerance of deviance from the social norms, which reinforces its relevance in constraining

people's behaviors. As a result, people in tight cultures are more likely to conform to the national culture with strong and strict norms and a limited range of acceptable behaviors (Gelfand et al., 2006). In contrast, people in loose cultures are not exposed to the same level of sanctioning and pressure to align themselves with social norms in a precise manner. These cultural factors may, in turn, relate to people's personality development, such that people in loose cultures are likely to develop personalities that tolerate a wide range of acceptable behaviors, with higher levels of acceptance, flexibility, and openness in interpreting these behaviors (Gelfand et al., 2006). Empirical evidence showed that cultural tightness was linked to reduced variances in the FFM trait scores (Bartram, 2013), suggesting that in tight cultures people are less likely to develop personality profiles that do not conform with the cultural norm constraints. Additionally, based on data from 33 countries, Gelfand et al. (2011) compared countries that are very tight (e.g., Singapore and South Korea) to those that very loose (e.g., Israel and Brazil) on a continuum. Results indicated that individuals who are chronically embedded in tight culture countries tend to develop distinct self-guides, self-regulation strategies, psychological needs, and self-monitoring abilities (Gelfand et al., 2011). Moreover, in tight nations, people tend to have higher self-control and a need for structure because it helps them to avoid being censored for inappropriate behavior (Gelfand et al., 2011). These psychological processes naturally attuned people to constraints in the larger cultural context, which might, for example, decrease their

level of Openness in general. Thus, it is reasonable to assume that in tight cultures, there will be fewer variations in people's personality profiles than in loose cultures.

Empirical evidence provides indirect support for our assumption. Across 56 countries, cultures that had high standard deviations for one dimension of the FFM tended to have high standard deviations for all other dimensions (Schmitt et al., 2007). Therefore, it is reasonable to argue that when combining the FFM traits, countries that have high standard deviations in their FFM traits will have more variations in their FFM combinations. More specifically, most countries from Asian and African regions were in the lower half of the distributions of mean standard deviations. Mean standard deviations were higher among European and American countries (Schmitt et al., 2007). These results are in line with what is presented in Gelfand et al. (2011), as the tightness/looseness index across 33 countries showed that most countries from Asian and African regions have tighter scores than European and American countries. Moreover, similar patterns are found based on tightness-looseness index within a country. For example, a sample from 50 U.S. states showed that tight states (e.g., Mississippi) have higher Conscientiousness scores and loose states (e.g., California) have higher Openness scores (Harrington & Gelfand, 2014). Despite vast differences in the history, culture, and political policies between the U.S. and China, a sample from 31 provinces of China showed that tight provinces have higher Conscientiousness and lower Openness and Extraversion scores than loose provinces (Chua et al., 2019), which was similar to what was found in Harrington and Gelfand's (2014) research.

Additionally, Chua et al. (2019) found that in tight provinces, people scored higher on self-monitoring, suggesting that they pay more attention to how they interact with others and society. Based on these theoretical and empirical considerations related to tightness-looseness, we thus propose:

Hypothesis 4: Cultural tightness-looseness will have a main effect on personality profile emergence, such that tighter countries will have less personality profile variation than looser countries.

Culture may be associated with not only personality profile emergence but also how people perceive and define effective or ineffective performance (Lord & Maher, 1999). Based on implicit leadership theory, which posits that leadership is interpreted and evaluated by each individual's internal cognitive categorization of leader attributes (Lord et al., 1984), culture influences people's development of cognitive prototypes of effective leadership and common leader attributions (Hunt et al., 1990). Thus, culture might also influence people's cognitive interpretation and categorization of general workplace behavior. Data across 29 countries showed that cultural tightness is positively related to the endorsement of leadership behaviors that preserve the status quo, such as independent decision making and a lower desire or need for suggestions from others. Cultural tightness is also negatively related to the endorsement of leadership behaviors that are revolutionary, transformational, or team-oriented because people in tight cultures generally prefer clear rules and structure (Aktas et al., 2016). Additionally,

Stamkou et al. (2019) found that people in tighter cultures expressed a stronger preference for norm-followers as leaders.

Culture's influence can extend beyond perceptions of leadership behaviors to general performance-related behaviors because in tight cultures, employees are monitored more continuously, and they are punished more severely for violating norms than employees in loose societies (Gelfand et al., 2011). In contrast, norms in loose cultures are expressed through different channels, and there is a general lack of formality, order, and discipline as well as a high tolerance for deviant behavior (Gelfand et al., 2006). The flexibility of conformity allows loose cultures to be more open to change and variations of workplace behaviors. Findings in expatriate literature indirectly support this argument. It has been proposed that the expatriate's personality traits need to fit with the host country's cultural values, norms, and prototypical personality traits to positively influence expatriates' adjustment to the host country's culture (Searle & Ward, 1990). Moreover, Peltokorpi and Froese (2014) found that Extraversion had a stronger influence on expatriate job satisfaction in a tight culture country (i.e., Japan) than a loose culture country (i.e., Brazil). This is because extroverted expatriates tend to seek social relationships, but the tight Japanese culture views talkative and outgoing behavior in the workplace as disturbing. Thus, extroverted expatriates might be perceived as ineffective performers, and they might also feel rejected by their host country counterparts. Templer (2012) found that Agreeableness is positively related to job satisfaction in tight countries, which might reflect the fact that agreeable employees

who can fulfill the society's culture requirements receive encouragement and rewards for their behavior, and thus develop higher job satisfaction. Additionally, it was found that a country's tightness/looseness level has a negative relationship with expatriate deployment levels (Shin et al., 2015). In other words, the tighter a country's culture, the less likely a multinational company would deploy expatriates to that country (Shin et al., 2015), partly because norms are behavioral constraints that firmly reside within institutional contexts and are therefore much harder for people from looser cultures to adjust to.

Part of the reason that tight cultures may have fewer personality profile variations is the behavioral inhibition feature in tight cultures, which limits individuals' autonomy to manifest their personality traits in such contexts. It guides the expression of personality in thoughts, feelings, and behaviors, reinforcing the strength of norms in that context (Harrington & Gelfand, 2014). For example, although extroverts enjoy companionship regardless of which country they are from, with whom they socialize, when, and where is usually dictated by local custom (McCrae & Costa, 1996). Results from Shao and Webber (2006) showed that both Chinese (i.e., a tight culture) and U.S. (i.e., a loose culture) leaders rated themselves similarly on their personality traits, but the same level of personality trait did not predict the same level of transformational leadership behavior rated by their subordinates. This shows why employees such as expatriate leaders or contractors need to adjust and adapt their personality-related behaviors to the cultural context they reside in.

Additionally, it is suggested that traits will be reflected in behaviors better in situations that allow individuals to express their traits freely, in contrast to tight situations that impose greater constraints on behaviors (Barrick & Mount, 1991). In other words, personality-performance relationships are stronger when the situations allow the individuals more autonomy over their performance-related behaviors, in comparison to situations that have clear rules and regulations for those behaviors. Based on the overall assessment of performance, Barrick and Mount (1991) found that the degree of autonomy in people's jobs moderated the relationship between Extraversion, Conscientiousness, Agreeableness, and job performance rated by supervisors. Additionally, a meta-analytic study found that the relationship between Conscientiousness and performance was stronger for occupations that have fewer constraints and more flexible consequences (R. D. Meyer et al., 2009). Thus, it is reasonable to assume that in tight cultures that allow less autonomy and have more control over behavior and sanctioning, the personality profile-performance relationship will be weaker than that in loose cultures.

Hypothesis 5: Cultural tightness/looseness will have a moderating effect on the relationship between personality profiles and performance, such that countries that have a tighter culture will have a weaker relationship than those that have a looser culture.

Chapter 2 - Method

Participants

The data for this study involve 53,046 participants from 76 countries. The mean age of participants is 38.48 years (*SD* = 14.46) and 29.5% are females (43.3% did not indicate gender). Approximately 46.2% of the participants are unskilled/semiskilled workers, and 10.9% are first-line managers. Tables 2-6 list more detailed demographic information for this sample.

Measures

Personality. Personality was assessed by ADEPT-15, a multidimensional pairwise preference computer-adaptive measurement that assesses each individual's standing on 15 personality facets (see Table 1 for theoretical mapping to the FFM dimensions). Based on a large item pool (300,000 items), participants were presented with 100 items, and their scores were calculated based on item response theory. For each item, each participant was asked to choose one statement from a pair that is most representative of him/her. The statement pairs that make up an item reflect different personality facets (e.g., Drive statement "I am always on time for appointments" paired with Liveliness statement "I make friends easily"), and the statements in a pair have a comparable level of social desirability. To set the normative personality facet scores for a candidate, one unidimensional pair per facet (e.g., an item that has two statements both assessing Drive) is presented to the participants. Given the unique format of ADEPT-15, test-retest reliability was assessed based on honest test-takers completing the assessment once, and then

again after a two-week delay. At the facet level, test-retest reliabilities range from .44 to .73. At the trait level, test-retest reliabilities range from .66 to .77. Construct validity of the measurement was examined by investigating convergent and discriminant validity of the measure with previously established measures that used Likert scales. A sample of participants responded to ADEPT-15 at one point in time, and they responded to the previously established Likert scale measures of the same/similar facets (DeYoung et al., 2007; Lee & Ashton, 2004; Steers & Braunstein, 1976; Vandewalle, 1997) at the second point in time. The average observed convergent validity was .44 across 15 facets and increased to .59 accounting for unreliability in both ADEPT-15 and Likert scale measures. Discriminant validity was established by the investigation of a multitrait-multimethod matrix based on the same sample. Correlation results showed that across both the ADEPT-15 and the Likert scale facets, facets that belong to the same trait (e.g., Structure and Drive that both map to Conscientiousness) exhibited much higher correlations with each other (average correlation for ADEPT-15 is .32, for Likert scale measures is .52), compared to facets that were mapped to different traits (e.g., Structure that's mapped to Conscientiousness and Assertiveness that's mapped to Extraversion; average correlations for ADEPT-15 is .05, for Likert scale measure is .25; Boyce & Capman, 2017).

Performance. A proprietary assessment was comprised of several work-related measures such as *maintains composure* (14 items) and *drives for quality results* (9 items). Participants' managers rated their direct report's standing on these

competencies. Table 7 lists all the performance dimensions, the number of items that were used to assess the dimension, and scale reliability when the information is available. All the performance scores in the archival dataset are standardized scores based on the industry.

To organize the performance dimensions, we sorted the performance dimensions according to Campbell and Wiernik's (2015) performance model. We were provided with the definitions of performance dimensions in the proprietary assessment (see Table 7 for performance dimension definitions) and then sorted the performance dimensions in the proprietary assessment into Campbell's performance taxonomy according to the definitions or names of the dimensions when definitions were not available.

Additionally, managers were asked to rank the participant's overall job performance compared to their other direct reports. The participant's performance ranking is used as an indicator of overall job performance in the current study.

Country-Level Tightness-Looseness. We derived tightness-looseness scores for each nation from Uz (2015). These tightness-looseness scores were based on responses from 101,172 people from the European Values Study Group and World Values Survey Association integrated data set. Participants were asked to report their level of tolerance for moral deviations and endorsement of diverse sets of values and behavioral practices (Alpha = .77). The tightest country has a score of 0 (e.g., Morocco), and the higher a country scores, the looser the culture (maximum score = 119.8, Belgium; Uz, 2015). In terms of the validity of these

tightness-looseness scores, Uz (2015) correlated the scores to a few theoretically relevant constructs that are available in the data set: feelings of freedom of choice and control ($r = .31$, $p < .05$), subjective well-being ($r = .38$, $p < .01$), willingness to live near dissimilar others ($r = .68$, $p < .001$), and behavioral inhibition ($r = .59$, $p < .001$). Additionally, at the country level, Uz correlated his tightness-looseness scores to Gelfand et al. (2011) cultural tightness-looseness perceptions ($r = .26$, $p =$ *n.s.*), and individualism-collectivism ($r = .42$, $p < .01$), uncertainty avoidance ($r = .01$, $p =$ *n.s.*), power distance ($r = -.33$, $p < .05$), masculinity-femininity ($r = -.03$, $p =$ *n.s.*), and indulgence-restraint ($r = .38$, $p < .01$) value scores from Hofstede's website (Hofstede et al., 2010). The scale showed strong convergent validity with its theoretically relevant constructs, such as behavioral inhibition at the individual level and power distance at the country level. Out of the 68 tightness-looseness country scores in Uz (2015), we extracted 39 countries that overlapped with those in our archival data (see Table 6 for details). For the countries that did not have a tightness-loose score, participants were excluded from the analysis.

Procedure

Over several years, employees across multiple organizations, organizational levels, and industries completed the proprietary personality assessment online as part of several validation studies, development center activities, or assessment center activities. Participants often filled out a demographic survey first, and then the personality assessment before they moved on to other activities. The participants' direct supervisors provided performance ratings for related

performance dimensions based on participants' performance in the past 6 to 12 months.

Analysis

Before conducting data analysis, participants were screened out based on attention check thresholds. The proprietary assessment requires a minimum of 8 minutes to complete, and a minimum consistency score that is calculated in the back end of the system. Participants who did not meet these two thresholds were be screened out of the data analysis, as they did not pay enough attention to the personality assessment. In addition, 10 participants were excluded from the data analyses as they were identified as outliers (i.e., they had a score on any one of the Aspects that is above the absolute value of 3).

Hypothesis 1(a)-(c), Hypothesis 2, Hypothesis 3, and Research Questions 1-3 focused on personality profile emergence, profile structure, and profile relationships with performance outcomes based on the FFM trait level indicators (see Table 8 for a summary of Hypotheses and Research Questions). For this analysis, trait level scores were calculated as the composite score of facets that are nested within the trait. Then, we ran LPA based on the trait level scores as profile indicators, and performance dimensions as outcome variables. To model the latent profile structures, we used the automatic three-step approach (Morin et al., 2011), and tested the profiles' relationship with outcomes in Mplus 7.3 (Asparouhov & Muthén, 2014). The first step identifies the profile structures and the best model through class enumeration based on the profile indicators (i.e., personality traits).

The second step assesses whether an increase in an antecedent would influence one's membership in one subgroup over another through multinomial logistic regression. Because we did not measure any antecedents in the archival dataset, the second step was skipped. The third step examines whether different subgroup membership indicates significant differences in levels of the outcomes (Morin et al., 2011). Following practices in Lanza et al. (2013), we analyzed the outcomes using the DCON command. When analyzing outcome variables in relation to the profile solution, most likely subgroup membership and error rates of subgroup classification were taken into consideration, which is an advantage of LPA over traditional cluster analysis (Wang & Hanges, 2011).

In terms of identifying the number of profiles, LPA is an inductive method, such that it is used to estimate multiple models by adding one more profile to the previous profile structure until the model no longer holds, known as class enumeration (Nylund, Asparouhov, & Muthén, 2007). Although there are no "golden rules" to decide the number of subgroups, selection should be based on multiple considerations, including theory, previous research results, the nature of subgroups, interpretability of results, goodness-of-fit indexes, and tests of statistical significance (Marsh et al., 2009). We examined seven fit statistics to assess the latent profile models. Although there are no cutoff scores for LPA fit statistics, the best model should have lower log likelihood (LL), Akaike information criterion (AIC; Akaike, 1987), Bayesian information criterion (BIC; Schwarz, 1978), and sample-size-adjusted BIC (SSA-BIC; Sclove, 1987) in comparison to other profile

structures. Entropy provides an indicator of the accuracy of subgroup classification that varies from zero to one, with higher values representing fewer errors (Morin, Meyer, Creusier, & Biétry, 2016), and values above .70 considered noteworthy (Conte, Heffner, Roesch, & Aasen, 2017). Moreover, both the Lo-Mendell-Rubin (LMR) likelihood ratio test and the bootstrap likelihood ratio test (BLRT) should be significant ($p < .05$), indicating the new model is significantly different from the previous model (Asparouhov & Muthen, 2013). Perhaps most importantly, the theoretical meaning of solutions and whether specific classes were consistent with previous empirical research were considered when choosing the best profile structure (Foti, Bray, Thompson, & Allgood, 2012).

Research Questions 4-5 focused on personality profile emergence, profile structure, and profile relationships with performance outcomes based on the facet level. We conducted another set of automatic three-step analyses using the 15 personality Aspects as profile indicators, and evaluate the latent profile models based on the same seven fit statistics and theoretical meaning.

Hypothesis 4 proposed that tighter countries would have less personality profile variation than looser countries. We counted the total number of profiles as well as the total number of participants within each profile in each country and examined the variance of personality profiles given the country tightness/looseness scores (Gardner et al., 1995).

Hypothesis 5 proposed that cultural tightness/looseness would have a moderating effect on the relationship between personality profiles and performance

outcomes. Our dataset has a hierarchical structure in which participants are nested within the country, so this hypothesis is multilevel in nature. Therefore, we used multi-level regression analysis to examine this hypothesis in Rstudio. Specifically, each individual was assigned to a personality profile based on the results of the LPA, and the profile they belong to was used as the level 1 predictor variable. This predictor variable is considered as a multicategorical variable with *k* groups, and we used dummy coding to compare one profile to another based on different performance outcomes. The performance variables were treated as level 1 dependent variables, and they were continuous variables. To probe the interaction between personality profiles and tightness-looseness scores, we used the country tightness-looseness scores as a level 2 moderator and examine whether profile-performance relationships depend on country scores.

Chapter 3 - Results

Trait Profile Results: Personality Profiles

Descriptive statistics and correlations were calculated for the study variables (Table 9). The trait level scores were calculated as the mean scores of the mapped Aspects. Next, LPA analyses were conducted with a two-profile solution as a starting point (Table 10 shows the results for the class solutions). The best fitting and the most meaningful solution has six profiles. Specifically, the six profile solution was chosen because: (1) the AIC, BIC, and SSA-BIC values were smaller with the six profile solution than the five profile solution; (2) the LMR test went from significant with the six profile solution to non-significant with the seven profile solution; (3) the entropy value is close to those for the five and seven profile solutions; and (4) the conditional profile means (i.e., within profile personality trait mean scores) for the six profile solution indicated meaningful and substantively different profiles (five of which overlapped with personality profiles found in the literature). Table 11 shows the classification probabilities for the most likely latent profile membership by latent class from the LPA analyses, calculated as the posterior probability of belonging to one of the six classes (the posterior probabilities across the six classes for a given profile sum to one; Oberski, 2015). For a given row, the bold values indicate the accurate classification probabilities for each class (i.e., the posterior probability of that class belonging to the assumed latent profile), and a value that is closer to 1 is reflective of a higher probability for accurate classification. The values not in bold indicate the probabilities for

misclassifications. The average of the bold values is 0.70. Taken together, these results indicate evidence for multiple profiles based on the trait level data.

The overall sample mean (i.e., personality trait mean scores across all the latent profiles) and standard deviation and the conditional response means (i.e., within profile personality trait mean scores, shown in Table 12) were used to interpret the classes. Table 12 also reports the number of participants in each profile and the proportion of that profile in the sample, and Figure 1 reports the profile structures. Profile 1 (2% of the sample) had low scores for all the five traits and thus was labeled *Undesirable*. Profile 2 (2% of the sample) had low Extraversion and Openness paired with average scores for other traits, and this profile was labeled *Overcontrolled*. Profile 3 (59% of the sample) had above-average scores for all the traits and thus was labeled as *Resilient.* Profile 4 (29% of the sample) had average scores for all the traits and thus was labeled as *Adaptable*. Profile 5 (7% of the sample) had high scores for all the traits and thus was labeled as *Extreme.* Profile 6 (1% of the sample) had high Extraversion, above-average Openness and Agreeableness, paired with average scores on other traits, and this profile was labeled *Undercontrolled*. Therefore, Hypotheses 1(a), (b), and (c) were supported. For Research Question 1, we found three additional profiles beyond the RUO, providing evidence for more profiles in the population.

Trait Profile Results: Performance Outcomes

When exploring outcomes for Hypotheses 2 and 3, as well as Research Questions 2 and 3 (see Table 13 and Figure 2), several differences emerged. All the

performance criteria in the archival dataset were standardized scores based on the industry. We categorized the performance criteria according to Campbell and Wiernik's (2015) performance dimension taxonomy, and we examined the profiles' relationships with both performance criteria in the dataset and the performance dimensions the criteria were categorized into. Undesirable's profile structure was characterized by low scores across all the five personality traits, and they also exhibited low scores across all performance outcomes, except for Demonstrates System Thinking (M = 0.36) and Plans Prioritizes Organizes (M = 0.22), on which Undesirable scored significantly higher than Overcontrolled ($M_{Demonstrates\ System\ Thinking}$ = -0.07, $M_{Plans\ Prioritizes\ Organizes}$ = 0.06), Resilients ($M_{Demonstrates\ System\ Thinking}$ = 0.20, $M_{Plans\ Prioritizes\ Organizes}$ = -0.01), Adaptable ($M_{Demonstrates\ System\ Thinking}$ = -0.17, $M_{Plans\ Prioritizes\ Organizes}$ = -0.19), and Extreme ($M_{Demonstrates\ System\ Thinking}$ = 0.06, $M_{Plans\ Prioritizes\ Organizes}$ = 0.05). These results speak to the potential value of the combination of low scores across the five traits. The general tendency to be anxious, disagree with others, and be less open to new ideas might lead those in the Undesirable profile to think about several strategies to defend their opinions. Also, because they tend to keep to themselves, they generally do not speak up about the defending strategies until asked. Therefore, when they are asked to present their point of view on something, they might appear to be a systematic thinker and have structured their thoughts in an organized way.

Unlike in previous research showing pervasive advantages of being a Resilient (i.e., above-average scores for all the traits), Resilient in our study did not

emerge as the most successful profile for any one of Campbell and Wiernik's (2015) performance dimensions, which failed to support Hypothesis 2. However, Resilient's performance scores were consistently high across all the performance dimensions. They were either the profile with the second-highest score for the performance dimension (e.g., Maintaining Discipline) or they have a non-significantly lower score from the profile with the highest score on the performance criteria (e.g., Demonstrates Customer Service). Additionally, Resilient score second highest on Overall performance (M = 0.07). These results seem to reflect the well-rounded nature of Resilient's personality profile, such that the above-average personality scores on all traits were associated with above-average performance in all areas in the workplace.

Overcontrolled was a profile that has low Extraversion and Openness, combined with average scores for other traits. This profile scored high on a few of Campbell and Wiernik's (2015) performance dimensions including Maintaining Discipline, Demonstrating Initiative, Persistence, and Effort, Leadership of Team and Peer Performance, as well as the performance criterion Establishes/Maintains Rapport. Therefore, Hypothesis 3 was supported. Additionally, this profile scored highest on Overall Performance (M = 0.24) and was significantly different from Undesirable (M = -0.01), Resilient (M = 0.07), Adaptable (M = -0.06), Extreme (M = 0.04), and Undercontrolled (M = -0.10). These results indicate that a low score on Extraversion does not equal pervasive disadvantages in the workplace. When a person might be more likely to experience emotional ups and downs and less open

to different or innovative ideas, keeping those thoughts and experiences to oneself instead of expressing them might be a workplace advantage. Instead of facing emotional fluctuations or voicing opposing opinions, Overcontrolled might focus on the tasks at hand as a coping strategy to suppress or avoid the negative feelings. As a result, people might perceive Overcontrolled to be quiet and calm, yet task-focused and rule conscientious in all situations.

Adaptable was a profile that had average scores across all five personality traits, and this profile also had average performance scores across all criteria, except for Takes Ownership, Uses Judgment Makes Decisions, Problem Solves, Self Develops, and Plans Prioritizes Organizes, in which this profile scored the lowest. These results indicate that while having a balanced and neutral personality combination might qualify a person as an acceptable performer, a lack of defining characteristics or general tendencies might be associated with a lack of motivation in specific areas that requires extra effort. Adaptable individuals may tend to be reactive to work situations, and they are not particularly good at self-reflection or taking control of the environment proactively. These performance results reflect Adaptable individuals' tendency to achieve minimum requirements of the job, go with the flow, and be content with their current situations.

People in the Extreme profile had high scores across all five personality traits, which did not translate into high performance across all Campbell and Wiernik's (2015) performance dimensions. In general, Extreme performed better than Adaptable. However, compared to Resilient, Extreme's performance was less

consistent, as they scored higher than Resilients in some performance criteria but lower in others. Among all the profiles, Extreme scored second-highest on Takes Appropriate Risks (M = 0.26), which was significantly higher than Undesirable (M = -0.05), Overcontrolled (M = -0.13), Resilient (M = 0.13), Adaptable (M = -0.12), and Undercontrolled (M = 0.03). This result reflects the advantage of having a high level of Emotional Control while also being able to voice one's opinion, agreeing to other people's input, and being open to different ideas yet persistent in achieving one's goal.

Finally, Undercontrolled (i.e., high Extraversion, above-average Openness and Agreeableness, combined with average scores on other traits) excelled at performance criteria that require unconventional solutions (e.g., Resourcefulness/Creativity), but they scored the lowest on criteria that involve sales-related activities or interpersonal interactions (e.g., Leverages Networks). These results are somewhat inconsistent with the prevalent belief that being an extrovert comes with many benefits and advantages in the workplace. As revealed in Undercontrolled, when high Extraversion is paired with comparatively lower Emotional Stability and Conscientiousness, people might be more likely to externalize their problems and show those problems in the workplace, especially when the customer disagrees with or rejects the sales effort of Undercontrolled individuals.

Facet Profile Results: Personality Profiles

Using Aspect scores as facet profile indicators, LPA analyses were conducted with a two-profile solution as a starting point to enumerate facet profiles (Table 14 show the results for the class solutions). The best fitting and the most meaningful solution has eight profiles. Specifically, the eight profile solution was chosen because: (1) the AIC, BIC, and SSA-BIC values were smaller with the eight profile solution than the seven profile solution; (2) the LMR test went from significant with the eight profile solution to non-significant with the nine profile solution; (3) the entropy value is higher than the seven and nine class profile; and (4) each profile included more than 1% of our study's sample (Nylund et al., 2007). Table 15 shows the classification probabilities for the most likely latent profile membership by latent class from the LPA analyses, calculated as the posterior probability of belonging to one of the eight classes (Oberski, 2015). The average of the accurate profile classification (i.e., the posterior probability of that class belonging to the assumed latent profile) is 0.60. Taken together, these results indicate evidence for multiple profiles based on the facet level data and address Research Question 4.

In terms of the profile structures, the overall sample mean (i.e., personality facet mean scores across all the latent profiles) and standard deviation and the conditional response means (i.e., within profile personality facet mean scores, shown in Table 16) were used to interpret the classes. Table 16 also reports the number of participants in each profile and the proportion of that profile in the

sample, and Figure 3 reports the profile structures. Profile 1 (4% of the sample) had low scores across all Aspects except for a high score on Humility, and this profile was labeled *Humble*. Profile 2 (2% of the sample) had high Drive and the lowest Liveliness, Sensitivity, and Cooperativeness among all profiles, and this profile was labeled *Go-getter*. Profile 3 (40% of the sample) had very similar scores as Go-getter on Structure, Drive, and Awareness, but they were distinguished by average scores for all other Aspects and thus were labeled as *Ordinary.* Profile 4 (2% of the sample) had an extremely high score on Power, combined with the highest score on Assertiveness and Ambition and the second-highest score on Flexibility and Mastery. Therefore, this profile was labeled as *Entrepreneur*. Profile 5 (11% of the sample) had average scores for most of the Aspects, but they were distinguished by the second-lowest Assertiveness paired with average Liveliness (both facets mapped to Extraversion), as well as the second lowest Ambition, Power, and highest Humility. Thus, this profile was named *Pillar.* Profile 6 (23% of the sample) had below-average scores across all the facets, and this profile was labeled *Mediocre*. Profile 7 (14% of the sample) was defined by exceptional Cooperativeness, Drive, Structure, Composure, and Positivity. This profile also had relatively high scores on other facets and was labeled *Supreme.* Lastly, profile 8 (4% of the sample) had several distinctive within trait facet combinations: extremely low Structure and below-average Drive (mapped to Conscientiousness), above-average Assertiveness and extremely high Liveliness (mapped to

Extraversion), as well as extremely low Composure and high Positivity (mapped to Emotional Stability). Therefore, this profile was labeled *Free Spirit.*

Facet Profile Results: Performance Outcomes

The eight profiles were associated with different performance outcomes, providing empirical findings to inform Research Question 5 (see Table 17 and Figure 4 for details). Specifically, Humble had low performance ratings across all criteria, indicating that even though being humble is a valuable characteristic, a person cannot perform well in the workplace if that is his/her primary characteristic. Pillar in general was rated low across the performance criteria, and they were rated the lowest for Drives Customer Focus. However, for criteria that might be beneficial for team functioning (e.g., Communicates with Impact, Establishes Maintains Rapport, Takes Ownership, and Team Player), Pillar was rated above average. It is worth noting that the major difference between Humble and Pillar was how each profile combined Humility with other facets. It appears that when people can be humble and quiet while keeping a positive attitude like the Pillar, their value for team functioning was reflected in the performance ratings.

Performance ratings for Ordinary reflected the label of this profile in that they did not excel or were exceptionally bad at any of the performance criteria. This profile's performance was above average across the board, showing the benefits of having a well-rounded facet profile. However, when a facet profile had well-rounded below-average scores like Mediocre*,* the performance ratings turned out to be below average across the criteria. These results imply the importance of

supplemental effects of the facets, such that when the shortcoming of some facets cannot be offset by other facets, a person's behavioral tendencies are perceived to be mostly ineffective with a lack of counterbalancing positive behaviors in the workplace.

Go-getter scored highest on Overall Performance and several criteria across the performance criteria (e.g., Learns Follows Procedures, Demonstrates System Thinking, Problem Solves, Takes Ownership, Sells Effectively and Team Player). These results suggest that when a person is persistent in achieving goals and accomplishing tasks, he/she may be perceived as dependable and reliable, which offsets his/her lack of interpersonal interactions with other team members, resulting in high scores on performance criteria that are mainly task-oriented. The Entrepreneur was associated with high-performance scores across all criteria, and the highest performance criteria rating for several dimensions (e.g., Adapts Maintains Composure, Leads Teams, Leverages Networks, Resourcefulness Creativity, Self Develops, Takes Appropriate Risks, and Uses Judgment Makes Decisions). Considering Entrepreneur's hunger for Power, ambitious nature, open-mindedness to new ideas, and constant efforts for improvement, their ratings as high performers indicated that aspirational behaviors were considered to be valuable in the workplace. Supreme*,* in general*,* was rated above average for several performance criteria (e.g., Establishes/Maintains Rapport, Leverages Networks, and Takes Appropriate Risks), but they were rated below average on customer-related or sales-related criteria (e.g., Drives Customer Focus, Executes

the Sales Process, Resolves Customer Issues, and Sells Effectively). These results show that although being highly accommodating, planful, rule-following, and laid-back is beneficial for many job outcomes, the lack of independence and desire for challenge was reflected in their interactions with customers and sales activities.

Free Spirit was rated above average on performance criteria that require adaptivity and constant learning, such as Demonstrates System Thinking and Resourcefulness Creativity. However, they were rated the lowest for Revolves Customer Issues, and in general, they were rated low on performance criteria that require persistence (e.g., Takes Ownership and Drives for Quality Results). These results show that while being open-minded, comfortable with ambiguity, and passionate is beneficial for adaptive and creative performance, the unstructured way of thinking and unpredictable emotional behaviors that may be associated with this profile are likely to be perceived as ineffective customer service and unreliable work behaviors.

Culture's Main Effect

Hypothesis 4 proposed that culture would have a main effect on personality profile emergence and this hypothesis was examined at the trait and facet level. Table 18 shows that at the trait level, regardless of the country's tightness-looseness scores, all six profiles emerged and the pattern was always that Resilient occupied the largest proportion of that country's sample, followed by Adaptable and then Extreme. Similarly, Table 19 shows that at the facet level, all eight profiles were found in each country. Additionally, the pattern was always that

Ordinary occupied the largest proportion of each country's sample, followed by Mediocre and then Supreme. The lack of variance in profile emergence and proportions across countries failed to provide evidence to support Culture's main effect on personality profile emergence. Therefore, Hypothesis 4 was not supported.

Culture's Moderation Effect on Profile-Performance Relationships

We used multilevel regression analysis to examine culture's moderation effect using dummy coded profile membership as the level 1 predictor, performance as the level 1 outcome, and country-level tightness-looseness scores as the level 2 moderator. Table 20 shows that at the trait level, culture had a moderating effect on the relationships between profile membership and four performance outcomes. For Demonstrates Customer Service, Undesirable scored lower than Resilient and Extreme, and they scored higher than Overcontrolled and Adaptable across countries. Looking at the differences with country scores, when the country score becomes looser, Undesirable were rated less effective on this performance criterion: Overcontrolled (β = -0.02, $p < .05$), Adaptable (β = -0.01, $p < .05$), Resilient (β = -0.01, $p < .05$), and Extreme (β = -0.02, $p < .05$). In other words, Undesirable are more likely to be rated lower than Resilient and Extreme, and less likely to be rated higher than Overcontrolled or Adaptable in looser countries. In contrast, for Learns Follows Procedure, Undesirable scored lower than Overcontrolled and Resilient, and they scored higher than Adaptable across countries. Taking country scores into consideration, the performance rating

differences for Undesirable became smaller in comparison to Overcontrolled (β = 0.01, p < .05), Resilient (β = 0.01, p < .05), and larger for Adaptable (β = 0.01, p < .05) when the country score becomes looser. Therefore, in looser cultures, being an Undesirable is less likely to be rated lower than Overcontrolled and Resilient, and more likely to be rated higher than Adaptable. Resilient's relationship with their performance ratings on Problem Solves was also moderated by the country's tightness-looseness. For example, as the country becomes looser, Resilient are more likely to be scored higher than Adaptable (β = 0.01, p < .05), and lower than Extremes (β = -0.01, p < .05), as Resilient scored higher than Adaptable and lower than Extremes without accounting for country scores. These results indicated that certain trait profiles are perceived to be more, or less, effective in certain performance domains compared to other profiles depending on the country's tightness-looseness level.

At the facet level, culture has a moderating effect on the relationships between profile membership and 11 performance outcomes (Table 21). For example, the score differences on Overall Performance for Entrepreneur compared to other profiles became smaller as the country becomes looser: Ordinary (β = -0.01, p < .05), Pillar (β = -0.01, p < .05), and Free Spirit (β = -0.01, p < .05). These results imply that Entrepreneurs are less likely to be scored higher than Ordinary, Pillar, or Free Spirit profiles in countries with a looser culture. Another example is the score differences for Pillar on Takes Ownership in comparison to Mediocre (β = 0.01, p < .05) and Free Spirit (β = 0.01, p < .05) as the country gets looser. This

indicates that Pillars are more likely to be scored higher than those in the Mediocre or Free Spirit profiles regarding their Takes Ownership performance in looser cultures. Taken together, the results in Table 21 show that certain facet profiles are rated as more or less effective in specific performance domains than other profiles depending on the country's tightness-looseness level.

Chapter 4 - Discussion

The current study utilized latent profile analysis to examine a large and diverse archival employee data set to (a) identify and characterize personality profiles based on traits and facets, (b) examine the relationships between the personality profiles and a number of performance outcomes, as well as (c) explore national culture's influence on the profile-performance relationships. By taking this approach, we examined the consistency of trait level personality profiles by comparing the profiles found in the current study to previous research findings. We also filled a gap in research by including different performance outcomes and showing that different personality profiles may be perceived to be more or less effective than others for specific performance outcomes. Moreover, we informed the profile-performance investigation at the trait and facet levels, which helped us to understand these relationships from a broad as well as more granular perspective. Finally, building on Gelfand's cultural tightness-looseness framework (Gelfand et al., 2006), the current study explored whether national cultures had any influence on personality profile emergence and whether certain profiles may be perceived to be more successful performers in certain performance areas in different cultures.

Based on five personality traits, the current study replicated five personality trait profiles that have been found in previous studies (Resilient, Overcontrolled, Undercontrolled, Adaptable, Undesirable), and found an additional profile (i.e., Extreme). These results provide supporting evidence for trait profile consistency when the study sample is diverse and large. We also found that trait profiles have

distinctive relationships with performance outcomes. For example, even though Undesirable scored low across all performance outcomes, they were rated higher than other profiles in terms of their performances on systematic thinking and planning, which indicates that each profile has its unique performance advantages in the workplace. Based on 15 personality facets, we derived eight profiles and they also exhibited differential relationships with performance outcomes. The facet level results reveal that people can score high on one facet of a trait but low on another facet of the same trait. Additionally, the relationships between the facet profiles and the performance outcomes are reflective of the defining characteristics of the profiles, which illuminates the benefit of examining combinations of personality facets. Finally, all the trait and facet profiles emerged in a similar pattern in each country in our sample, which failed to support the expected main effect of culture on personality profile emergence. However, national culture did have a moderating effect on the relationship between personality profiles and certain outcomes. These results indicate that certain personality profiles may be scored higher/lower on specific performance domains depending on the strength of a country's social norms.

Theoretical Implications

These findings help shape the theoretical landscape surrounding personality profiles in several ways. First, our findings replicated the three commonly found (Resilient, Undercontrolled, Overcontrolled), and two less commonly found (Adaptable and Undesirable) trait profiles in previous person-centered studies of

personality (Dennissen et al., 2007; Fisher & Robie, 2019; Isler et al., 2017). Regardless of the samples used in previous research, the structures of the replicated profiles in the current study were similar to those found previously, such that the mean scores of the traits and their relative standing within profiles were similar. This is important to show that when the sample is large and diverse as in the current study, less commonly found trait profiles are more likely to be replicated. Demonstrating this replication is important as it sets the stage for future research to hypothesize which profiles are likely to emerge, and which profiles might only replicate in unique populations.

Second, our findings suggest that Extraversion and Conscientiousness may be less crucial for performance when considering how they operate with other personality traits based on latent profile analysis. In line with past work viewing higher Extraversion and Conscientiousness as predictors of better performance (e.g., Barrick et al., 2003; Wilmot et al., 2019), Resilient's performance scores were consistently high across all the performance outcomes. Conversely, Extreme—people who have high scores for all five traits—scored higher than Resilient on some, but not all, the performance outcomes. Moreover, Resilient and Extreme scored lower than Overcontrolled—people who have low Extraversion and average Conscientiousness, paired with low Openness and average Agreeableness and Emotional Stability—on a few performance outcomes such as Overall Performance, Adapts/Maintains Composure, Communicates with Impact, and Drives for Quality Results. As such, these results indicate the importance of

theorizing the effect of personality trait combinations, instead of individual traits, which might prove fruitful for understanding personality-performance relationships. These results may also shed light on why previous variable-centered research sometimes yielded nonlinear or conflicting findings related to Extraversion and Conscientiousness (e.g., Carter et al., 2016; Grant, 2013). Future research should further consider specific contexts to identify under what condition a profile with low Extraversion or Conscientiousness might be beneficial for specific performance outcomes (e.g., profiles with low Extraversion may be beneficial for a remote working environment for a research role, but harmful for a virtual sales role).

Third, the findings related to the facet profiles and their relationships with performance outcomes highlight the value of examining personalities at a more detailed level. We found profiles that have facet structures consistent with their overall traits (e.g., Mediocre that have below-average scores across all the facets), as well as profiles that have facet structures not aligned with their overall traits (e.g., Free Spirit who have extremely low Composure and high Positivity, with both facets mapped to Emotional Stability). These findings reveal that even though at the trait level, individuals might have similar trait profiles, their facet profiles may differ and thus they might react to workplace stimuli in different ways. As reflected in facet profiles' relationships with performance outcomes, we found that the defining characteristics of the facet profiles were translated into their performance ratings. For example, Mediocre received below-average performance

scores across the criteria, but Free Spirit were rated above average on performance outcomes that require adaptivity and constant learning. Findings for facet profiles speak to the value of assessing personality at the granular level, especially when the focus of the performance criteria is narrow and specific. Future research can examine the mechanisms through which facet profiles are linked to different performance outcomes.

The findings for national culture's moderating effects are important because they address each profiles' expected performance advantages or disadvantages in different cultures. In general, employees are monitored more closely in tight cultures, and they are expected to adhere to norms or protocols (Gelfand et al., 2011). In contrast, loose cultures generally lack formality, order, and discipline (Gelfand et al., 2011), so workplace behaviors that are deemed appropriate can take many forms and variations. Our results showed that as the culture becomes looser, the performance score differences among the profiles tend to become smaller. These findings highlight the benefit of taking culture and social norms into consideration when looking at relationships between profiles and performance. In societies that have well-defined rules and unspoken standard methods of doing things, only a few personality profiles may fit the performance expectations of certain domains. Future studies may examine performance criteria and performance protocols in tight and loose cultures to explore which performance areas are perceived to be more important and hence more noticeable in tight cultures

compared to loose ones (e.g., rule-following may be the top priority in tight cultures, but not necessarily in loose cultures).

Practical Implications

Our research highlights the need for hiring managers and organizations to recognize the importance of personality *combinations* and their relationships with performance outcomes. To this end, managers should understand that as beneficial as a personality trait may seem to be, one trait alone cannot define whether a person will be an effective performer or not. In considering the effects of personality, managers should attempt to take a holistic view and look at personality profiles, seeing how the traits are combined together to offset each other's disadvantageous effects or augment the beneficial ones, and determining if the personality combination will be ideal for the job. Our findings related to profile-performance relationships speak to the potential benefits of actively looking for personality profiles that might be beneficial for particular work outcomes. Although certain profiles might have lower performance in certain areas such as sales or communication, these profiles can show great advantages in other performance areas including systematic thinking, planning, or creativity. Thus, we encourage hiring managers to not only consider personality profiles that have good performance ratings across all criteria, but also profiles that excel in key performance areas that differentiate top performers from others for a specific job role. Having a workforce with diverse personalities can bring tremendous benefits to the organization (Foma, 2014).

The facet profiles in our study underscore the variety of ways that subpopulations combine their personalities, which in turn are associated differently with various performance outcomes. As such, managers are encouraged to understand their employees' personality combinations at the facet level and develop more actionable strategies to promote performance accordingly. For example, employees who appear to be extremely humble without a sense of cooperative or positive attitude might need more performance management and motivation, but those who are humble and cooperative might only need manager coaching in performance areas such as decision making and planning. As such, managers can create developmental plans for each individual according to their own characteristics, and only focus on the areas that might be naturally challenging for the individuals. Understanding employees' facet profiles can improve manager efficiency as they can focus on specific performance areas for each employee for developing them.

Finally, national culture's moderating effect on profile-performance relationships is relevant to several organizational practices, such as expatriate assignments, innovation and efficiency, effective leadership, and team processes. Managers should understand that for employees that transit from a tight to a loose culture, they may be less familiar with ambiguity and normless behavioral expectations, which may induce strain and interfere with their performance. For employees that are going from loose to tight cultures, managers may select the profiles that are more likely to be perceived as successful performers because it

could be difficult for people to suppress their natural tendencies to fit into the social norms and obey everyday behavioral restrictions.

Limitations and Future Directions

There are a few limitations of the current study that warrant consideration. First, all the performance ratings in the current study were industry-centered scores. Even though this approach is beneficial to compare performance differences across industries, actual performance differences among the profiles might be attenuated. Future studies may examine profile-performance relationships in specific industries to investigate which profiles are more successful in which industries.

Second, even though we have a large and diverse sample, more than half (59%) of the sample is from the U.S. We were able to conduct country-level analyses because we have enough participants in each country, as a multilevel analysis requires a sample of at least 20 groups with at least 30 participants each to achieve an acceptable level of power (Heck & Thomas, 2015). However, future studies might include more participants from other cultures, especially extremely tight or loose cultures to further explore culture's moderation effects.

Third, we focused only on one cultural variable in the current study, tightness-looseness, because it has shown some effects in its association with Big Five personality score variances (Harrington & Gelfand, 2014). However, culture might influence not only the variety of the personality profiles but also the nature of the personality profiles (Terracciano & McCrae, 2006). Future research can examine other cultural variables' influence on personality profiles, such as

Hofstede's (2001) cultural dimensional model or Schwartz's (2012) cultural value model, and examine how specific cultural variables influence the nature and variety of people's personality profiles.

Fourth, we aimed to examine the profile-performance relationship by using multisource archival data (i.e., employees self-reported their personalities, and their direct supervisors rated their performance). However, supervisor performance ratings may have unreliability issues (Salgado & Moscoso, 2019), which could attenuate the profile-performance relationships. Additionally, personalities are distal constructs that are linked to performances through more proximal variables, such as motivation or self-regulation. We were not able to examine these proximal variables in the current study; hence, we do not know exactly how each profile exerts influence on performance. Future studies are encouraged to investigate the mechanisms through which profiles are linked to performance outcomes.

Finally, we used latent profile analysis to derive personality profiles in the current study, so we could compare the profiles from our findings to those from previous studies using the same method. However, the personality assessment that was used in the archival dataset was not designed specifically to measure the Big Five personality traits, even though 10 facets were mapped to the Big Five dimensions. This may complicate comparisons between the current study and previous research in this area. Moreover, even though latent profile analysis provides us some important insights, with technological advancement in data mining and machine learning, other methods such as random forest, a technique

that builds from a collection of decision trees based on a set of variables to determine the best classification, may be useful in building personality profiles. Jacobucci et al. (2017) showed that when based solely on observed variables, the results between finite mixture models (e.g., latent profile analysis) and decision tree models (e.g., random forest) are very similar. However, random forest can be very useful when there is a large number of innovative predictors in building profile classifications.

Conclusion

People's personality traits and facets are distinct but do not exist in isolation. Variable-centric studies of personality are likely to miss the rich ways that traits and facets combine within people. Our study advances personality research by identifying trait- and facet-level personality profiles, exploring the profiles' relationship with various performance outcomes, as well as national culture's effect on the profile-performance relationships. These findings illuminate the importance of taking a holistic view of people's personalities and understanding how unique personality combinations are translated into performance behaviors and how these behaviors are perceived in different cultures. Future research that builds on this person-centric approach can offer great potential for both talent management research and practice.

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Table 1: Linkage between archival data personality model and the FFM.

Archival Data Aspects	Archival Data Aspect Definitions	Related FFM Trait
Conceptual	Intellectually curious and philosophical.	Openness to Experience
Flexibility	Adaptable and open-minded to new ideas.	Openness to Experience
Mastery	Learning-oriented and improvement-focused.	Unmapped to FFM
Structure	Planful, detail-oriented, and rule-conscious.	Conscientiousness
Drive	Reliable, hard-working, and persistent.	Conscientiousness
Assertiveness	Assertive, decisive, and competitive.	Extraversion
Liveliness	Socially outgoing, energetic, and confident.	Extraversion
Sensitivity	Compassionate, caring, and understanding.	Agreeableness

Cooperation	Team oriented, accommodating, and cooperative.	Agreeableness
Humility	Modest, genuine, and unselfish.	Unmapped to FFM
Composure	Composed, calm, and restrained under pressure.	Emotional Stability
Positivity	Hopeful, optimistic, and resilient.	Emotional Stability
Awareness	Reflective and self-aware.	Unmapped to FFM
Ambition	Goal-oriented and relentless.	Unmapped to FFM
Power	Controlling, directive, and motivated to lead.	Unmapped to FFM

Table 2: Frequency and percentage of sample's gender.

	Frequency	Percent
Female	15,626	29.5
Male	14,512	27.4
N.A.	22,908	43.2
Total	53,046	100

Table 3: Frequency and percentage of sample's ethnicity.

	Frequency	Percent
American Indian or Alaska Native	221	0.4
Asian	1,619	3.1
Black or African American	5,155	9.7
Hispanic or Latino	5,274	9.9
N.A.	27,423	51.7
Native Hawaiian or Pacific Islander	115	0.2
Other	11	0
Two or More Races	347	0.7
White	12,881	24.3
Total	53,046	100

Table 4: Frequency and percentage of sample's job level.

	Frequency	Percent
Entry Level/Recent College Graduate	495	0.9
First Line Supervisor/Manager	5,792	10.9
Middle Management	709	1.3
NA	7	0
Other	119	0.2
Professional Level Employee/Specialist	5,393	10.2
Sales Professional	10,305	19.4
Senior Management & other Executives	333	0.6
Technical/Skilled Professional	5,374	10.1
Unskilled/Semiskilled	24,519	46.2
Total	53,046	100

Table 5: Frequency and percentage of sample's industry.

	Frequency	Percent
Automobiles	731	1.4
Banks	569	1.1
Beverages	717	1.4
Diversified Financial Services	578	1.1
Diversified Telecommunication Services	1,364	2.6
Food & Staples Retailing	6,000	11.3
Hotels, Restaurants & Leisure	27,381	51.6
Insurance	216	0.4
IT Services	2,119	4
Law Enforcement	2,696	5.1
Metals & Mining	221	0.4
Oil, Gas & Consumable Fuels	102	0.2
Paper & Forest Products	200	0.4
Pharmaceuticals	1,654	3.1
Professional Services	5,486	10.3
Road & Rail	754	1.4
Specialty Retail	2,258	4.3
Total	53,046	100

Table 6: Frequency and percentage of sample's country. CTL refers to the country tightness-looseness scores.

Country	Frequency	Percent	CTL	Country	Frequency	Percent	CTL
N.A.	330	0.6		Kazakhstan	147	0.3	
Algeria	51	0.1	19.2	Kuwait	119	0.2	
Argentina	10	0	75	Malaysia	285	0.5	
Armenia	61	0.1		Mexico	1,125	2.1	74.7
Aruba	304	0.6		NA	531	1	
Australia	78	0.1		Netherlands	105	0.2	78.9
Austria	172	0.3	75.8	Oman	180	0.3	
Azerbaijan	92	0.2		Panama	60	0.1	
Bahrain	244	0.5		Peru	94	0.2	52.3
Barbados	6	0		Philippines	342	0.6	31.5
Belgium	51	0.1	119.8	Poland	297	0.6	42.8
Brazil	697	1.3		Portugal	106	0.2	87.4
Canada	1,168	2.2	84.6	PRI	102	0.2	
Cayman Islands	321	0.6		Puerto Rico	143	0.3	63.1
Chile	150	0.3	86.8	Qatar	434	0.8	
China	3,381	6.4	35.3	Romania	75	0.1	42.4
Colombia	8	0		Russia	225	0.4	57.2
Costa Rica	128	0.2		Russian Fed.	3	0	
Czech Republic	63	0.1	59.6	Saint Kitts and Nevis	76	0.1	
Dominican Republic	52	0.1		Saudi Arabia	426	0.8	22.4
Ecuador	79	0.1		Singapore	148	0.3	55.2
Egypt	714	1.3	3.9	Slovakia	1	0	59
El Salvador	12	0		South Africa	2	0	67.6
France	254	0.5	99.6	South Korea	97	0.2	20.1
Georgia	20	0		Spain	485	0.9	83.9
Germany	489	0.9	82.9	Sweden	1	0	87.9
Greece	1	0	58.3	Switzerland	132	0.2	
Guatemala	2	0		Taiwan	8	0	
Hong Kong	1	0		Thailand	589	1.1	
Hungary	54	0.1	42.8	Trinidad and Tobago	6	0	
India	2,049	3.9	43.7	Tunisia	2	0	
Indonesia	453	0.9	3.1	Turkey	273	0.5	12.5
International	105	0.2		United Arab Emirates	1,039	2	
Ireland	74	0.1	71.2	United Kingdom	1,395	2.6	
Israel	102	0.2		USA	31,365	59.1	58
Italy	134	0.3	67.8	Venezuela	145	0.3	39.2

Japan	341	0.6	43.3	Vietnam	86	0.2	35.9
Jordan	146	0.3	5.1				
Total	53,046	100					

Table 7: Performance Dimension Definitions, Items per Dimension, and Alpha for each Performance Scale.

Performance Dimension	Definition	Number of Items	Alpha
Overall Performance	An item that summarizes employee's overall performance	1	n.a.
Adapts/Maintains Composure	Exhibiting a steady demeanor and focus on work in the face of adversity, work setbacks, dissatisfied or irate customers.	14	n.a.
Communicates with Impact	Engaging the audience in a compelling manner, clearly conveying points in group and one-on-one settings, and demonstrating a clear understanding of audience needs and the objectives of the presentation.	3	.88
Demonstrates Customer Service	Anticipating and responding to customer, client and partner needs and ensuring other colleagues consider the customer's perspective.	3	.89
Demonstrates System Thinking	Recognizing the complex interrelationships among business activities and understanding the "big picture" of how decisions impact the overall business, other units, outcomes or processes.	3	.86
Drives Customer Focus	Anticipating and responding to customer, client and partner needs and ensuring other colleagues consider the customer's perspective.	7	n.a.
Drives for Quality Results	Achieving high levels of productivity through personal effort, taking responsibility to ensure tasks are completed on time and with high quality, striving to obtain a challenging goal, and showing a strong drive to follow through with and complete what was started.	9	n.a.
Establishes/Maintains Rapport	Making a connection with customers, clients, and guests, projecting a friendly, supportive tone, and maintaining rapport by validating the feelings and situations of others.	8	n.a.

Executes the Sales Process	Utilizing a sales process that involves defining customers' needs and then demonstrating how the organization's products and services can meet those needs.	4	n.a.
Leads Teams		8	n.a.
Learns Follows Procedures	Learning and applying rules, policies/principles or trends in order to perform a specific task, responsibility, or role.	7	n.a.
Leverages Networks	Building, maintaining, and leveraging contacts both within and outside the organization to gather critical information and influence key decisions.	3	.90
Plans Prioritizes Organizes	Allocating attention, effort and resources based on perceived value, importance, urgency and other personal, organizational and political factors.	5	.94
Problem Solves		2	.87
Resolves Customer Issues		3	n.a.
Resourcefulness/Creativity	Quickly dealing with problems or issues when they arise; working with others to get help or resources as needed.	3	n.a.
Self Develops	Continually seeking to improve oneself, seeking, accepting and using constructive criticism as well as reflecting on job experiences to identify new developmental opportunities.	2	.75
Sells Effectively	Using work time and resources efficiently to maximize sales-related activities.	4	n.a.
Takes Appropriate Risks	Demonstrating ability to assess probability of success and consequences of failure and encouraging others to take calculated and responsible risks.	2	n.a.
Takes Ownership	Taking proactive and constructive action at work with little or no direction from others.	2	.75
Team Player		9	n.a.
Uses Judgment Makes Decisions	Managing complexity by making decisions based on logical	4	n.a.

assumptions, relevant facts, examination of alternatives and consideration of available resources, responding decisively in critical situations, and avoiding both impulsiveness and indecision.

Table 8: Summary of hypotheses and research questions.

Hypotheses
Hypothesis 1(a). Resilients who have above-average scores on Openness, Conscientiousness, Extraversion, Agreeableness, and Emotional Stability will emerge as a personality profile.
Hypothesis 1(b). Overcontrolled who have below-average Emotional Stability, Extraversion, and Openness scores paired with average scores in Agreeableness and Conscientiousness will emerge as a personality profile.
Hypothesis 1(c). Undercontrolled who have below-average Agreeableness, Conscientiousness, and Emotional Stability, paired with above-average Extraversion and average Openness will emerge as a personality profile.
Hypothesis 2. Resilients will have higher scores than Undercontrollers and Overcontrollers across all performance dimensions.
Hypothesis 3. Overcontrollers will have higher scores than Undercontrollers on performance dimensions that are related to Initiative, Persistence, and Effort in Campbell's taxonomy.
Hypothesis 4. Cultural tightness-looseness will have a main effect on personality profile emergence, such that tighter countries will have less personality profile variation than looser countries.
Hypothesis 5. Cultural tightness/looseness will have a moderating effect on the relationship between personality profiles and performance, such that countries that have a tighter culture will have a weaker relationship than those that have a looser culture.
Research Questions
Research Question 1. Are there additional personality profiles beyond RUO?
Research Question 2. Will Overcontrollers and Undercontrollers have distinct scores on other performance dimensions in Campbell's taxonomy?
Research Question 3. Will other (non-RUO) personality profiles in the current study have distinct scores on performance dimensions?

Research Question 4. Are there personality profiles at the facet level that are qualitatively or quantitatively distinct from each other?

Research Question 5. Do facet level personality profiles have distinct relationships with performance outcomes?

Table 9: Descriptive statistics and correlations for study variables.

	M	SD	N	1	2	3	4	5	6	7
1. Open	0.09	0.38	35,316							
2. Cons	0.18	0.33	35,321	.12**						
3. Extra	0.14	0.37	32,097	.22**	.13**					
4. Agree	0.23	0.34	35,321	.20**	.19**	.25**				
5. Emo	0.24	0.36	35,321	.20**	.26**	.18**	.31**			
6. ACH	0.22	0.47	22,148	.25**	.32**	.23**	.12**	.19**		
7. ASR	0.07	0.45	28,311	.20**	.12**	.83**	.08**	.08**	.21**	
8 AWR	-0.01	0.44	22,148	.09**	.18**	.10**	.11**	.19**	.08**	.09**
9. CMP	0.25	0.44	22,148	.17**	.22**	.06**	.17**	.84**	.16**	0.01
10. COP	0.39	0.49	35,319	.18**	.18**	.19**	.83**	.25**	.12**	.06**
11. ENT	0.22	0.43	25,934	.19**	.07**	.79**	.33**	.20**	.14**	.17**
12. HUM	0.20	0.48	22,148	.02*	.13**	-.09**	.15**	.13**	-.07**	-.09**
13. IND	0.27	0.41	35,319	.16**	.77**	.16**	.18**	.30**	.32**	.16**
14. INT	-0.09	0.42	22,148	.80**	.06**	.21**	.10**	.13**	.21**	.20**
15. MST	0.24	0.43	28,313	.32**	.24**	.20**	.15**	.22**	.33**	.20**
16. MTC	0.08	0.42	35,320	.03**	.80**	.04**	.12**	.11**	.18**	.03**
17. OPC	0.17	0.42	35,316	.87**	.11**	.20**	.20**	.21**	.19**	.16**
18. POS	0.25	0.39	35,321	.18**	.21**	.21**	.30**	.87**	.16**	.11**
19. POW	0.23	0.43	28,312	.21**	.17**	.28**	.11**	.15**	.33**	.30**
20. SEN	0.07	0.39	35,318	.13**	.11**	.20**	.72**	.22**	.06**	.07**
21. Over	0.03	0.98	26,213	0.01	.05**	-0.01	0	.03**	.05**	.02**
22. Comp	0.02	0.92	25,672	.03**	.03**	0	.02**	.04**	.06**	0.01
23. Comu	0.02	0.93	23,419	.03**	.03**	0	.03**	.04**	.04**	-0.01
24. Cust	0.03	0.95	8,005	.04**	.03*	.04**	.04**	.04**	.05**	.04**
25. Syst	0.02	0.98	7,406	.06**	.06**	.03*	-0.01	.03*	.05**	.06**
26. Driv	0.01	0.92	6,921	0	.03*	0.01	0.01	0.01	0.02	0.02
27. Resu	0.02	0.85	25,693	.02**	.05**	0	0	0.01	.04**	.02**
28. Rapp	0.03	0.92	24,930	.02**	.03**	-0.01	.04**	.05**	.03**	-.02*
29. Sale	0.02	0.99	9396	0	0	-0.01	.02*	0	0.01	0.01

30. Lead	0.03	0.96	14641	0.01	0.02	0	.02*	.02*	.07**	0.02
31. Fol	0.03	0.91	17395	.02**	.05**	0	0.01	.03**	.03**	0.01
32. Net	0.02	0.90	8741	.07**	.05**	.06**	0	.03**	.06**	.07**
33. Plan	0.00	0.96	10984	0.02	.07**	0.01	-0.02	0.01	.06**	.05**
34. Solv	0.03	0.96	9928	.05**	.05**	0.01	0	.03**	.06**	.06**
35. Iss	0.00	0.98	7352	0	0.02	0.03	0	0	0.03	.05**
36. Creat	-0.01	0.95	6757	.08**	.06**	.06**	0	0.02	.06**	.09**
37. Dev	0.02	0.96	11167	.03**	.05**	-0.01	0.01	0.02	.06**	0.01
38. Sell	0.03	0.99	8513	0.01	0.02	-0.01	0	0	.13**	0.01
39. Risk	0.03	0.98	6298	.07**	.04**	.07**	0	.06**	.08**	.08**
40. Own	0.04	0.92	8445	0.02	.06**	-0.01	0.01	.05**	.04**	0.01
41. Team	0.02	0.94	23348	0.01	.03**	0	.02*	.03**	.04**	0
42. Deci	0.03	0.89	8875	.05**	.04**	.02*	0	0.02	.07**	.06**

Note: Open = Openness, Cons = Conscientiousness, Extra = Extraversion, Agree = Agreeableness, Emo = Emotional Stability, ACH = Ambition, ASR = Assertiveness, AWR = Awareness, CMP = Composure, COP = Cooperativeness, ENT = Liveliness, HUM = Humility, IND = Drive, INT = Conceptual, MST = Mastery, MTC = Structure, OPC = Flexibility, POS = Positivity, POW = Power, SEN = Sensitivity, Over = Overall Performance, Comp = Adapts/Maintains Composure, Comu = Communicates with Impact, Cust = Demonstrates Customer Service, Syst = Demonstrates System Thinking, Driv = Drives Customer Focus, Resu = Drives for Quality Results, Rapp = Establishes/Maintains Rapport, Sale = Executes the Sales Process, Lead = Leads Teams, Fol = Learns Follows Procedures, Net = Leverages Networks, Plan = Plans Prioritizes Organizes, Solv = Problem Solves, Iss = Resolves Customer Issues, Creat = Resourcefulness/Creativity, Dev = Self Develops, Sell = Sells Effectively, Risk = Takes Appropriate Risks, Own = Takes Ownership, Team = Team Player, Deci = Uses Judgment Makes Decisions.

	M	SD	8	9	10	11	12	13	14	15
9. CMP	0.25	0.44	.19**							
10. COP	0.39	0.49	.08**	.15**						
11. ENT	0.22	0.43	.07**	.09**	.26**					
12. HUM	0.20	0.48	.05**	.10**	.13**	-.04**				
13. IND	0.27	0.41	.16**	.24**	.18**	.10**	.12**			
14. INT	-0.09	0.42	.07**	.12**	.08**	.12**	0	.07**		
15. MST	0.24	0.43	.04**	.17**	.14**	.12**	.09**	.29**	.25**	
16. MTC	0.08	0.42	.12**	.10**	.11**	.01*	.09**	.23**	.03**	.10**
17. OPC	0.17	0.42	.08**	.15**	.19**	.17**	.03**	.18**	.30**	.30**
18. POS	0.25	0.39	.12**	.32**	.24**	.24**	.10**	.26**	.09**	.19**
19. POW	0.23	0.43	.06**	.10**	.12**	.12**	-.12**	.23**	.17**	.28**
20. SEN	0.07	0.39	.09**	.12**	.21**	.25**	.10**	.09**	.07**	.08**
21. Over	0.03	0.98	.03**	.03**	0.01	-.03**	0.01	.06**	-0.01	.05**
22. Comp	0.02	0.92	.02*	.06**	.02**	0	0	.05**	.02**	.05**
23. Comu	0.02	0.93	.02*	.06**	.02**	0.01	0.01	.04**	0.01	.03**
24. Cust	0.03	0.95	.03*	.04**	.03*	.03*	-0.01	.06**	0.01	.05**
25.Syst	0.02	0.98	.03*	0.02	-0.01	-0.02	-0.01	.09**	.03**	.08**
26. Driv	0.01	0.92	0	-0.01	0.01	0.02	-0.01	0.02	0.03	0.01
27. Resu	0.02	0.85	.02**	0.01	-0.01	-.03**	0.01	.06**	0	.05**
28. Rapp	0.03	0.92	.02**	.07**	.03**	0.01	0.01	.04**	0	.03**
29. Sale	0.02	0.99	.07**	0.02	0.02	0	-0.02	.02*	0	0.01
30. Lead	0.03	0.96	.04**	.03*	0.01	0.01	-0.02	.04**	0	.03**
31. Fol	0.03	0.91	.02*	.04**	0.01	-0.01	0	.06**	0	.05**
32. Net	0.02	0.90	0.01	0.02	0	0.01	-0.01	.07**	.05**	.09**
33. Plan	0.00	0.96	.03**	0.01	-0.01	-.03**	0.01	.08**	-0.01	.07**
34. Solv	0.03	0.96	.02*	.05**	0	-.03**	-0.01	.07**	.04**	.08**
35. Iss	0.00	0.98	0	0	-0.01	-0.01	0	0.02	0.02	0.02
36. Creat	-0.01	0.95	.03**	0.01	-0.01	0	-0.02	.08**	.05**	.09**
37. Dev	0.02	0.96	.02*	.02*	0.02	-.02*	0.01	.07**	0.01	.05**
38. Sell	0.03	0.99	0	0.01	0.01	0	-0.01	.02*	0.02	0.03
39. Risk	0.03	0.98	0.02	.04**	0.01	.03*	-0.02	.08**	.03**	.07**

40. Own	0.04	0.92	.04**	.03**	0.01	-.03*	0	.09**	-0.02	.05**
41. Team	0.02	0.94	.03**	.04**	.02*	0	0	.04**	0	.05**
42. Deci	0.03	0.89	.03**	0.02	0.01	-0.01	-0.02	.07**	.03**	.09**

	M	SD	16	17	18	19	20	21	22	23	24	25	26	27
17. OPC	0.17	0.42	0											
18. POS	0.25	0.39	.08**	.19**										
19. POW	0.23	0.43	.04**	.20**	.15**									
20. SEN	0.07	0.39	.08**	.12**	.22**	.05**								
21. Over	0.03	0.98	.01*	.02**	.02**	.06**	0							
22. Comp	0.02	0.92	0	.04**	.03**	.05**	0.01	.65**						
23. Comu	0.02	0.93	0	.04**	.04**	.04**	.03**	.63**	.71**					
24. Cust	0.03	0.95	-0.01	.05**	.03**	.06**	.04**	.65**	.62**	.65**				
25.Syst	0.02	0.98	0.01	.07**	.03**	.09**	0	.58**	.56**	.54**	.54**			
26. Driv	0.01	0.92	0.02	0	0.01	0.03	0.01	.69**	.66**	.65**	.78**	.55**		
27. Resu	0.02	0.85	.03**	.04**	0.01	.05**	0.01	.70**	.62**	.61**	.61**	.61**	.68**	
28. Rapp	0.03	0.92	0.01	.03**	.04**	.03**	.03**	.62**	.71**	.98**	.68**	.48**	.73**	.60**
29. Sale	0.02	0.99	-0.02	0.01	0	0.03	0.02	.63**	.71**	.69**	.72**	0	.66**	.64**
30. Lead	0.03	0.96	-0.01	.02*	.02**	.07**	.02*	.64**	.71**	.68**	.64**	.62**	.65**	.62**
31. Fol	0.03	0.91	.02*	.03**	.02*	.04**	0	.69**	.61**	.62**	.68**	.54**	.58**	.65**
32. Net	0.02	0.90	0	.06**	.03**	.10**	0.01	.59**	.58**	.57**	.59**	.66**	.49**	.64**
33. Plan	0.00	0.96	.03**	.04**	0.01	.08**	-0.01	.67**	.60**	.57**	.58**	.68**	.55**	.67**
34. Solv	0.03	0.96	0.02	.04**	0.01	.09**	-0.01	.65**	.62**	.59**	.55**	.54**	.50**	.66**
35. Iss	0.00	0.98	0.01	0.01	-0.01	.04*	0.02	.57**	.69**	.62**	.81**	.63**	.72**	.62**
36. Creat	-0.01	0.95	0.01	.07**	.03*	.11**	0.01	.60**	.57**	.56**	.55**	.68**	.42**	.60**
37. Dev	0.02	0.96	0.01	.04**	0.01	.07**	0	.65**	.68**	.67**	.63**	.58**	.60**	.68**
38. Sell	0.03	0.99	0.01	0.01	0.01	.03*	0	.61**	.72**	.97**	.56**	.70**	.66**	.66**
39. Risk	0.03	0.98	-0.01	.08**	.06**	.10**	-0.01	.56**	.60**	.52**	.53**	.57**	.42**	.48**
40. Own	0.04	0.92	0.02	.04**	.04**	.04**	0.01	.73**	.69**	.66**	.62**	.62**	.52**	.64**
41. Team	0.02	0.94	0.01	.02**	.03**	.05**	0.01	.69**	.66**	.71**	.63**	.57**	.64**	.68**
42. Deci	0.03	0.89	0	.06**	0.02	.11**	-0.02	.67**	.62**	.58**	.60**	.69**	.42**	.68**

	M	SD	28	29	30	31	32	33	34	35	36	37	38	39	40	41
29. Sale	0.02	0.99	.72**													
30. Lead	0.03	0.96	.69**	.73**												
31. Fol	0.03	0.91	.60**	.55**	.60**											
32. Net	0.02	0.90	.53**	.74**	.65**	.58**										
33. Plan	0.00	0.96	.55**	.45**	.63**	.64**	.67**									
34. Solv	0.03	0.96	.57**	.53**	.61**	.67**	.59**	.66**								
35. Iss	0.00	0.98	.63**	.58**	.61**	.54**	.72**	.80**	.55**							
36. Creat	-0.01	0.95	.51**	0	.64**	.57**	.98**	.68**	.56**	.64**						
37. Dev	0.02	0.96	.66**	.67**	.61**	.62**	.66**	.62**	.58**	.60**	.65**					
38. Sell	0.03	0.99	.97**	.69**	.67**	.61**	.68**	.51**	.55**	.58**	.57**	.65**				
39. Risk	0.03	0.98	.49**	0	.61**	.51**	.57**	.53**	.51**	.77**	.59**	.50**	.37*			
40. Own	0.04	0.92	.63**	.71**	.64**	.69**	.60**	.66**	.59**	.69**	.62**	.62**	.71**	.60**		
41. Team	0.02	0.94	.69**	.66**	.67**	.64**	.60**	.58**	.56**	.61**	.57**	.66**	.69**	.53**	.66**	
42. Deci	0.03	0.89	.55**	.54**	.66**	.66**	.66**	.67**	.74**	.83**	.64**	.60**	.57**	.59**	.65**	.60**

Table 10: Model fit indices for the trait latent profile analysis solutions.

Profile Solutions	LL	FP	AIC	BIC	SSA-BIC	LMR (p)	BLRT (p)	Entropy
2 Profiles	-72727.666	16	145487.332	145625.435	145574.587	0	0	0.503
3 Profiles	-71845.601	22	143735.203	143925.094	143855.177	0	0	0.541
4 Profiles	-71575.886	28	143207.772	143449.451	143360.467	0	0	0.62
5 Profiles	-71385.637	34	142839.273	143132.741	143024.689	0	0	0.634
6 Profiles	-71251.741	40	142583.482	142928.738	142801.617	0.0316	0	0.61
7 Profiles	-71077.254	46	142246.508	142643.553	142497.364	0.0986	0	0.635
8 Profiles	-70969.499	52	142042.998	142491.831	142326.575	0.2162	0	0.656

Note. N = 32,097 to 32,306; LL = log likelihood; FP = free parameters; AIC = Akaike information criteria; BIC = Bayesian information criteria; SSA-BIC = sample-size adjusted BIC; LMR = Lo, Mendell, and Rubin (2001) test; BLRT = bootstrapped log-likelihood ratio test.

Table 11: Classification probabilities for the most likely trait latent class membership (column) by latent class (row).

	1	2	3	4	5	6
1. Undesirable	**0.71**	0.04	0.00	0.25	0.00	0.00
2. Overcontrolled	0.04	**0.62**	0.14	0.20	0.00	0.00
3. Resilient	0.00	0.02	**0.73**	0.15	0.09	0.01
4. Adaptable	0.06	0.04	0.21	**0.68**	0.00	0.00
5. Extreme	0.00	0.00	0.28	0.00	**0.70**	0.03
6. Undercontrolled	0.00	0.00	0.12	0.01	0.12	**0.76**

Table 12: Overall sample means and conditional response means for 6-class solution.

Class	Class Count	Proportions	Openness	Conscientiousness	Extraversion	Agreeableness	Emotion Stability
1-Undesirable	858	0.02	-0.295	-0.295	-0.337	-0.192	-0.319
2-Overcontrolled	772	0.02	-0.081	0.171	-0.484	0.076	0.295
3-Resilients	24,440	0.59	0.151	0.231	0.206	0.295	0.322
4-Adaptable	12,053	0.29	-0.028	0.022	0.028	0.042	0.019
5-Extremes	2,932	0.07	0.351	0.403	0.369	0.603	0.601
6-Undercontroled	360	0.01	0.398	0.235	1.168	0.51	0.367
Overall Mean (SD)	41,415		0.098 (0.38)	0.173 (0.33)	0.141 (0.38)	0.230 (0.34)	0.239 (0.36)

Figure 1: Latent profiles for trait level results.

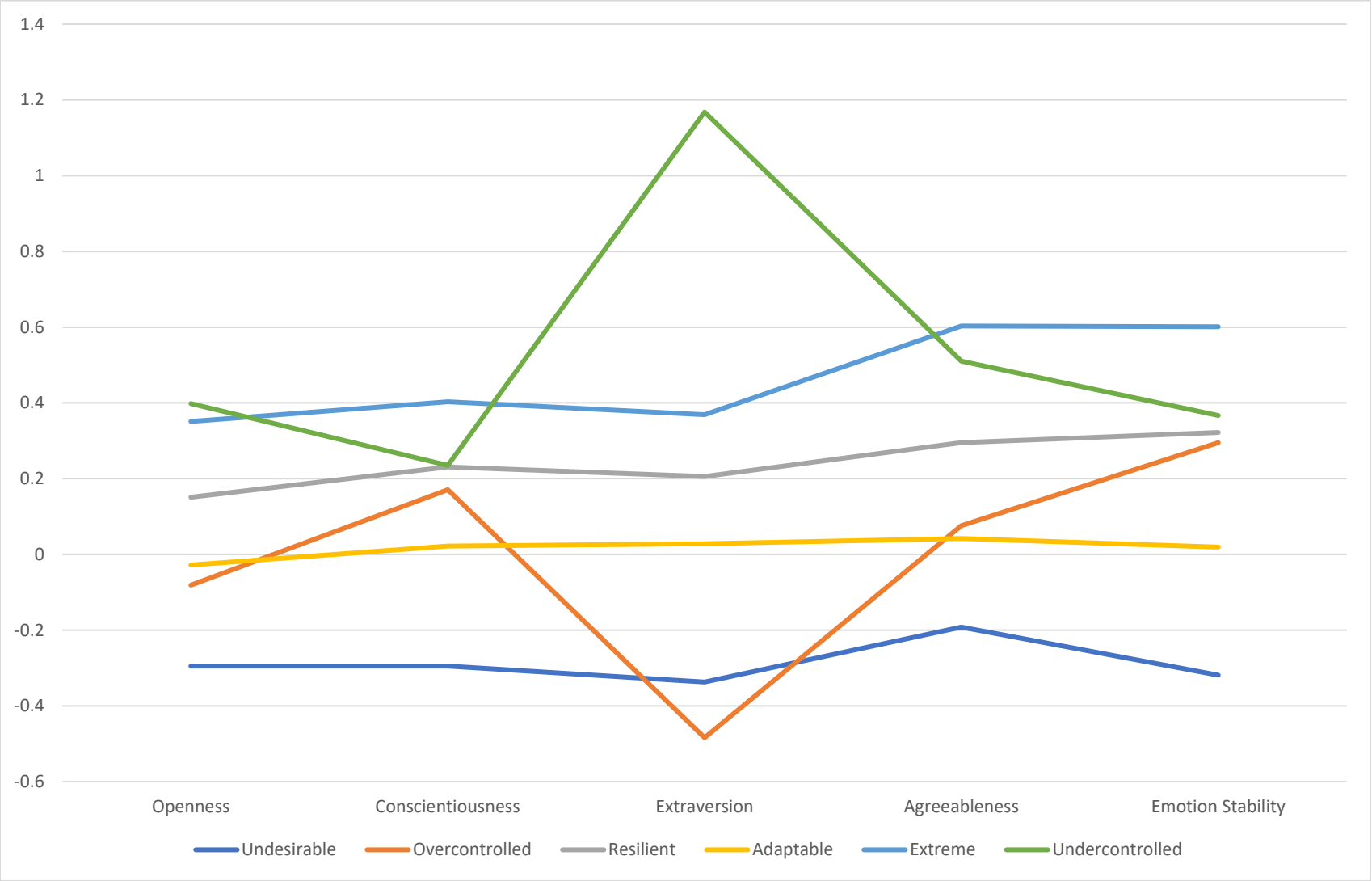

Figure 2: Performance outcomes based on trait profiles

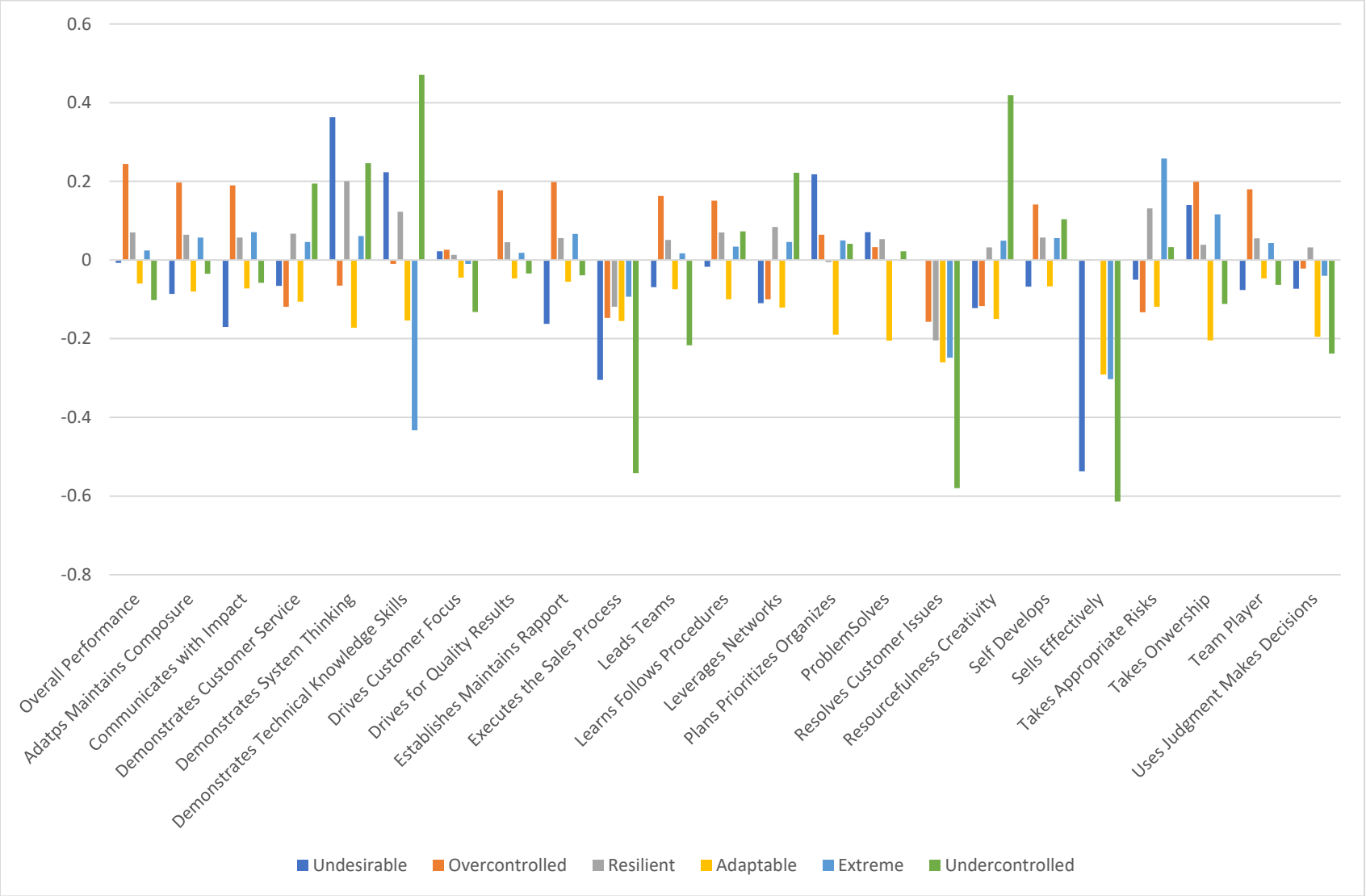

Table 13: Latent profile analysis results for distal outcomes (DCON) for trait level profiles.

Performance Outcome	Undesirable 1	Overcontrolled 2	Resilient 3	Adaptable 4	Extreme 5	Undercontrolled 6	Chi square
Overall Performance	-0.01^{2,3}	0.24^{1,3,4,5,6}	0.07^{1,2,4,5,6}	-0.06^{2,3,5}	0.04^{2,3,6}	-0.10^{2,3,5}	156.63**
Maintaining Discipline							
Adapts/Maintains Composure	-0.09^{2,3,5}	0.20^{1,3,4,5,6}	0.06^{1,2,4}	-0.08^{1,2,5}	0.06^{1,2,4}	-0.04^{2}	190.90**
Learns Follows Procedures	-0.02^{2,3,4}	0.15^{1,3,4,5}	0.07^{1,2,4}	-0.10^{2,5,6}	0.03^{2,4}	0.07^{4}	128.52**
Communication Proficiency							
Communicates with Impact	-0.17^{2,3,4,5}	0.19^{1,3,4,5,6}	0.06^{1,2,4}	-0.07^{1,2,5}	0.07 ^{2,6}	-0.06^{2,5}	174.92**
Demonstrating Initiative, Persistence, and Effort							
Demonstrates Customer Service	-0.07^{6}	-0.12^{3,5,6}	0.07^{2,4}	-0.11^{3,5,6}	0.05^{2,4}	0.19^{1,2,4}	59.57**
Drives Customer Focus	0.02	0.03	0.01^{4}	-0.05^{3}	-0.01	-0.13	8.88
Drives for Quality Results	0.00^{2}	0.18^{1,3,4,5,6,7}	0.05^{2,4}	-0.05^{2,3,5}	0.02^{2,4}	-0.03^{2}	111.34**
Self Develops	-0.07^{2,3,5}	0.14^{1,3,4}	0.06^{1,2,4}	-0.07^{2,3,5,6}	0.06^{1,4}	0.10^{4}	48.63**
Takes Ownership	0.14^{4,6}	0.19^{3,4,5,6}	0.04^{2,4,5}	-0.20^{1,2,3,5}	0.12^{2,3,4,6}	-0.11^{1,2,5}	124.21**
Hierarchical Management Performance							
Demonstrates System Thinking	0.36^{2,3,4,5}	-0.07^{3,4,5,6}	0.20^{2,4,5}	-0.17^{1,2,3,5,6}	0.06^{1,2,3,4,6}	0.25^{2,4,5}	152.71**
Uses Judgment Makes Decisions	-0.07	-0.02^{3,4,6}	0.03^{2,4,5,6}	-0.20^{2,3,5}	-0.04^{3,4}	-0.24^{2,3}	50.26**
Technical Performance							
Establishes/Maintains Rapport	-0.16^{2,3,4,5,6}	0.20^{1,3,4,5,6}	0.06^{1,2,4}	-0.06^{1,2,5}	0.07^{1,2,4}	-0.04^{1,2}	155.14**
Executes the Sales Process	-0.31^{3,5}	-0.15^{6}	-0.12^{1,6}	-0.16^{6}	-0.09^{6}	-0.54^{2,3,4,5}	23.86**
Leverages Networks	-0.11^{3,5,6}	-0.10^{3,5,6}	0.08^{1,2,4,6}	-0.12^{3,5,6}	0.05^{1,2,4,6}	0.22^{1,2,3,4,5}	111.92**
Problem Solves	0.07^{4}	0.03^{4}	0.05^{4}	-0.21^{1,2,3,5}	0.07^{4}	0.02^{4}	65.33**
Resolves Customer Issues	-0.25^{6}	-0.16^{6}	-0.20^{4,6}	-0.26^{6}	-0.25^{6}	-0.58^{1,2,3,4,5}	20.10**
Sells Effectively	-0.54^{2,3,4,5}	0.00^{1,4,5,6}	-0.26^{1,6}	-0.29^{1,2,6}	-0.30^{1,2,6}	-0.61^{2,3,4,5}	28.68**
Plans Prioritizes Organizes	0.22^{2,3,4,5}	0.06^{1,3,4}	-0.01^{1,2,4,5}	-0.19^{1,2,3,5,6}	0.05^{1,3,4}	0.04^{4}	66.66**
Leadership of Team and Peer Performance							
Leads Teams	-0.07^{2,3}	0.16^{1,4,5,6}	0.05^{1,4,6}	-0.07^{2,5}	0.02^{2,4,6}	-0.22^{2,3,5}	64.58**
Team Player	-0.08^{2,3,5}	0.18^{1,3,4,5,6}	0.06^{1,2,4,6}	-0.05^{1,2,5}	0.04^{2,3}	-0.06^{2,3}	102.23**
Management of team and peer performance							

Resourcefulness/Creativity	-0.12[3,5,6]	-0.12[3,5,6]	0.03[1,2,4,6]	-0.15[3,5,6]	0.05[1,2,4,6]	0.42[1,2,3,4,5]	117.82**
Hierarchical Management Performance							
Takes Appropriate Risks	-0.05[5]	-0.13[3,5]	0.13[2,4,5]	-0.12[3,5]	0.26[1,2,3,4,6]	0.03[5]	94.69**

Note. Superscripts indicate profiles that are significantly different at least at $p < .05$.

Table 14: Model fit indices for the facet latent profile analysis solutions.

Number of Profiles	LL	FP	AIC	BIC	SSA-BIC	LMR (p)	BLRT (p)	Entropy
2	-268299	46	536689.6	537086.6	536940.4	0	0	0.641
3	-265809	62	531741.3	532276.5	532079.4	0	0	0.601
4	-264247	78	528650.5	529323.8	529075.9	0	0	0.534
5	-263179	94	526546.7	527358.1	527059.3	0	0	0.607
6	-262476	110	525172.8	526122.3	525772.7	0	0	0.584
7	-261670	126	523592.7	524680.3	524279.9	0	0	0.569
8	-261146	142	522575.8	523801.5	523350.2	0.0004	0	0.593
9	-260655	158	521625.2	522989	522486.9	0.2771	0	0.577

Note. N = 22,148 to 35,318; LL = log likelihood; FP = free parameters; AIC = Akaike information criteria; BIC = Bayesian information criteria; SSA-BIC = sample-size adjusted BIC; LMR = Lo, Mendell, and Rubin (2001) test; BLRT = bootstrapped log-likelihood ratio test.

Table 15: Classification probabilities for the most likely facet latent class membership (column) by latent class (row).

	1	2	3	4	5	6	7	8
1	**0.57**	0.01	0.01	0.00	0.04	0.37	0.00	0.00
2	0.02	**0.46**	0.23	0.00	0.04	0.25	0.00	0.00
3	0.00	0.01	**0.76**	0.01	0.05	0.09	0.08	0.02
4	0.00	0.00	0.24	**0.61**	0.01	0.01	0.12	0.01
5	0.01	0.01	0.28	0.00	**0.50**	0.13	0.05	0.02
6	0.03	0.01	0.16	0.00	0.05	**0.74**	0.00	0.01
7	0.00	0.00	0.25	0.01	0.03	0.00	**0.70**	0.01
8	0.00	0.00	0.32	0.01	0.06	0.06	0.09	**0.48**

Table 16: Overall sample means and conditional response means for 8-class solution.

Class	Class Count	Proportions	Conceptual	Flexibility	Structure	Drive	Assertiveness	Liveliness	Sensitivity	Cooperativeness	Composure	Positivity	Ambition	Power	Awareness	Humility	Mastery
1	1465	0.04	-0.51	-0.34	-0.09	-0.15	-0.41	-0.19	-0.16	0.04	-0.06	-0.15	-0.41	-0.34	-0.22	0.32	-0.33
2	897	0.02	-0.23	0.00	0.16	0.38	-0.07	-0.47	-0.42	-0.03	0.15	-0.03	0.19	0.22	-0.04	0.25	0.25
3	16411	0.40	-0.01	0.25	0.13	0.35	0.18	0.23	0.05	0.37	0.28	0.27	0.38	0.32	0.00	0.12	0.37
4	923	0.02	0.09	0.42	0.08	0.06	0.45	0.31	0.10	0.53	0.33	0.39	0.61	1.33	0.07	0.06	0.57
5	4455	0.11	-0.30	0.05	0.13	0.26	-0.19	0.21	0.17	0.49	0.36	0.36	-0.05	-0.06	0.06	0.44	0.07
6	9708	0.23	-0.18	0.02	-0.07	-0.03	-0.02	0.11	-0.07	0.16	-0.03	-0.01	0.00	0.10	-0.15	0.02	0.00
7	5960	0.14	0.09	0.39	0.32	0.61	0.21	0.47	0.28	0.80	0.56	0.54	0.55	0.39	0.20	0.39	0.52
8	1596	0.04	0.14	0.50	-0.33	0.13	0.27	0.58	0.30	0.61	-0.07	0.45	0.07	0.31	-0.07	0.17	0.30
Overall *M*	41415		-0.09	0.17	0.08	0.27	0.07	0.22	0.07	0.40	0.25	0.25	0.22	0.23	-0.01	0.20	0.24
(SD)			(0.42)	(0.42)	(0.42)	(0.41)	(0.45)	(0.43)	(0.39)	(0.49)	(0.45)	(0.39)	(0.47)	(0.43)	(0.44)	(0.48)	(0.43)

Figure 3: Latent profiles for facet level results.

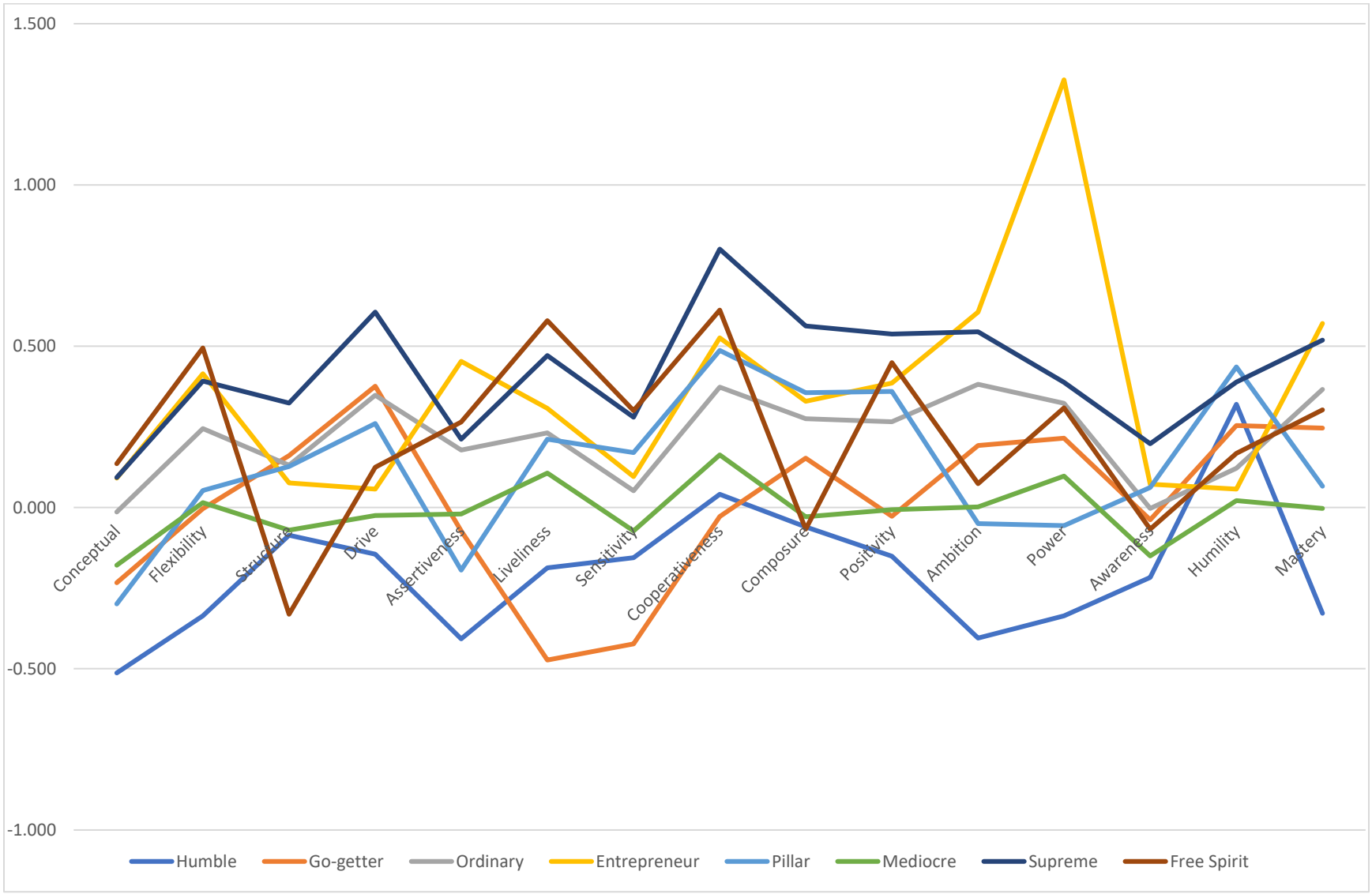

Figure 4: Performance outcomes based on facet profiles.

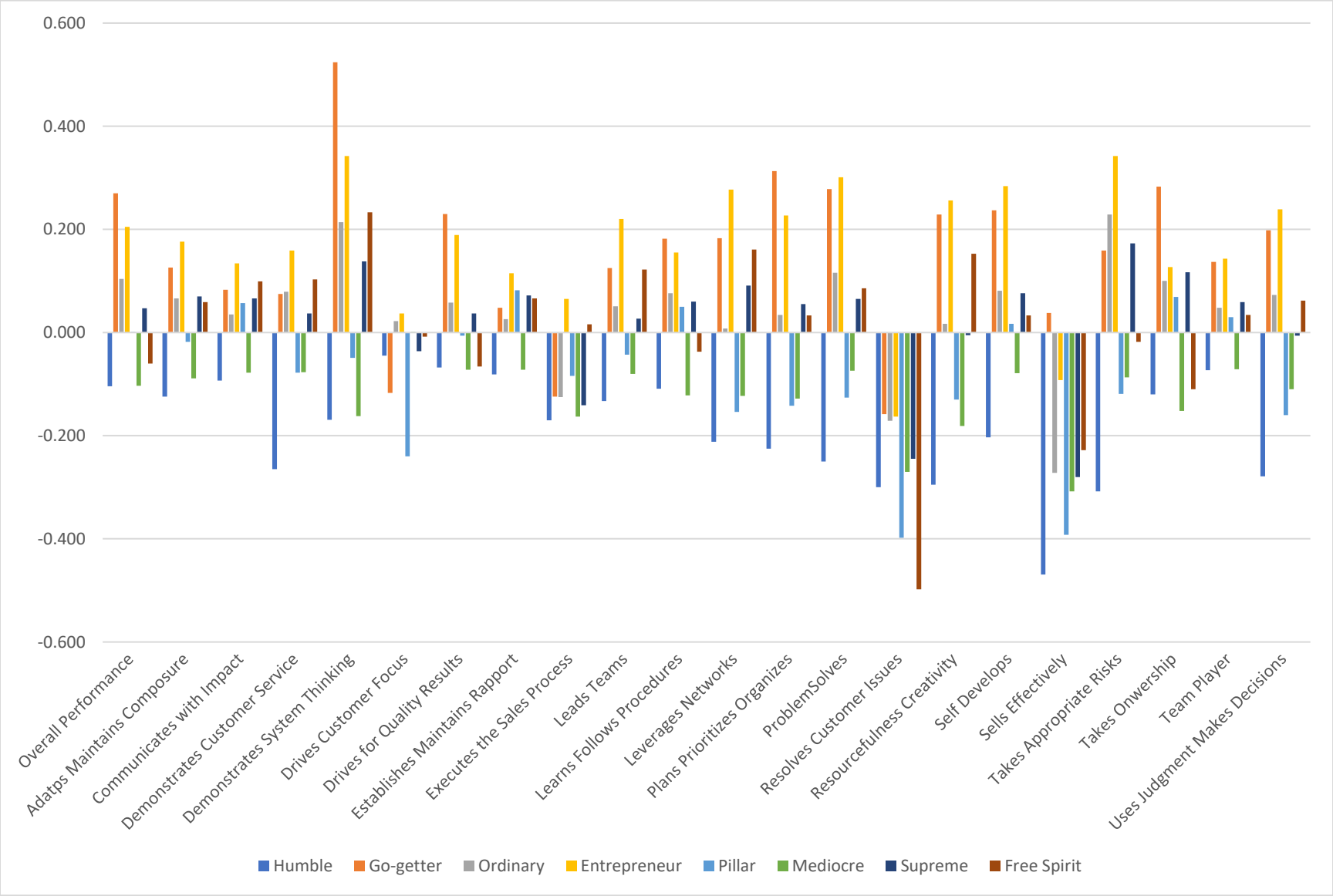

Table 17: Latent profile analysis results for distal outcomes (DCON) for facet level profiles.

Performance Outcome	Humble 1	Go-getter 2	Ordinary 3	Entrepreneur 4	Pillar 5	Mediocre 6	Supreme 7	Free Spirit 8	Chi square
Over	-0.10^{2,3,4,5,7}	0.27^{1,3,5,6,7,8}	0.10^{1,2,4,5,6,7,8}	0.21^{1,3,5,6,7,8}	0.00^{1,2,3,4,6,7,8}	-0.10^{2,3,4,5,7}	0.05^{1,2,3,4,5,6,8}	-0.06^{2,3,4,5,7}	319.90**
Maintaining Discipline									
Comp	-0.12^{2,3,4,5,7,8}	0.13^{1,3,5,6}	0.07^{1,2,4,5,6}	0.18^{1,3,5,6,7,8}	-0.02^{1,2,3,4,6,7,8}	-0.09^{2,3,4,5,7,8}	0.07^{1,4,5,6}	0.06^{1,4,5,6}	207.20**
Fol	-0.11^{2,3,4,5,7}	0.18^{1,3,5,6,7,8}	0.08^{1,2,4,6,8}	0.16^{1,3,5,6,7,8}	0.05^{1,2,4,6,8}	-0.12^{2,3,4,5,7,8}	0.06^{1,2,4,6}	-0.04^{2,3,4,5,6}	178.69**
Communication Proficiency									
Comu	-0.09^{2,3,4,5,7,8}	0.08^{1,6}	0.04^{1,4,6,8}	0.13^{1,3,5,6}	0.06^{1,4,6}	-0.08^{2,3,4,5,7,8}	0.07^{1,6}	0.10^{1,3,6}	126.55**
Demonstrating Initiative, Persistence, and Effort									
Cust	-0.27^{2,3,4,5,6,7,8}	0.08^{1,5,6}	0.08^{1,5,6}	0.16^{1,5,6,7}	-0.08^{1,2,3,4,8}	-0.08^{1,2,3,4,7,8}	0.04^{1,4,6}	0.10^{1,5,6}	59.57**
Driv	-0.05^{2,3,4,5,7}	-0.12^{1,3,5,6,7,8}	0.02^{1,2,4,5,6,8}	0.04^{1,3,5,6,7,8}	-0.24^{1,2,3,4,6,7,8}	0.00^{2,3,4,5,7}	-0.04^{1,2,4,5,6,8}	-0.01^{1,2,3,4,7}	28.53**
Resu	-0.07^{2,3,4,5,6,7}	0.23^{1,3,5,6,7,8}	0.06^{1,2,4,5,6,8}	0.19^{1,3,5,6,7,8}	-0.01^{1,2,3,4,6,7,8}	-0.07^{1,2,3,4,5,7}	0.04^{1,2,4,5,68}	-0.07^{2,3,4,5,7}	242.93**
Dev	-0.20^{2,3,4,5,6,7,8}	0.24^{1,3,5,6,7,8}	0.08^{1,2,4,5,6}	0.28^{1,3,5,6,7,8}	0.02^{1,2,3,4,6}	-0.08^{1,2,3,4,5,7,8}	0.08^{1,2,4,6}	0.03^{1,2,4,6}	146.98**
Own	-0.12^{2,3,4,5,7}	0.28^{1,3,4,5,6,7,8}	0.10^{1,2,6,8}	0.13^{1,2,6,8}	0.07^{1,2,6,8}	-0.15^{2,3,4,5,7}	0.12^{1,2,6,8}	-0.11^{2,3,4,5,7}	142.85**
Hierarchical Management Performance									
Syst	-0.17^{2,3,4,7,8}	0.52^{1,3,4,5,6,7,8}	0.21^{1,2,4,5,6}	0.34^{1,2,3,5,6,7}	-0.05^{2,3,4,6,7,8}	-0.16^{2,3,4,5,7,8}	0.14^{1,2,4,5,6}	0.23^{1,2,5,6}	229.63**
Deci	-0.28^{2,3,4,5,6,7,8}	0.20^{1,3,5,6,7,8}	0.07^{1,2,4,5,6,7}	0.24^{1,3,5,6,7,8}	-0.16^{1,2,3,4,7,8}	-0.11^{1,2,3,4,5,7,8}	-0.01^{1,2,4,5,6}	0.06^{1,2,3,4,5,6}	169.00**
Technical Performance									
Rapp	-0.08^{2,3,4,5,7,8}	0.05^{1,6}	0.03^{1,4,5,6,7}	0.12^{1,3,6}	0.08^{1,3,6}	-0.07^{2,3,4,5,7,8}	0.07^{1,2,6}	0.07^{1}	116.79**
Sales	-0.17^{4,8}	-.12^{4}	-.13^{4,8}	0.07^{1,2,3,5,6,7}	-0.08^{4}	-0.16^{8}	-0.14^{8}	0.02$^{1,3,6.7}$	26.07**
Net	-0.21^{2,3,4,6,7,8}	0.18^{1,3,5,6}	0.01^{1,4,5,6,7,8}	0.28^{1,3,5,6,7,8}	-0.15^{2,3,4,7,8}	-0.12^{1,2,3,4,7,8}	0.09^{1,3,4,5,6}	0.16^{1,5,6}	111.92**
Solv	-0.25^{2,3,4,5,6,7}	0.28^{1,3,5,6,7,8}	0.12^{1,2,4,5,6}	0.30^{1,3,5,6,7,8}	-0.13^{1,2,3,4,7,8}	-0.07^{1,2,3,4,7,8}	0.07^{1,2,4,5,6}	0.09^{2,4,5,6}	233.63**
Iss	-0.30^{8}	-0.16^{5,8}	-0.17^{5,6,7,8}	-0.16^{5,8}	-0.40^{4,6,7}	-0.27^{3,5,8}	-0.25^{3,5,8}	-0.50^{1,2,3,4,6,7}	66.94**
Sell	-0.47^{2,3,4,6,7,8}	0.04^{1,3,5,6,7,8}	-0.27^{1,2,4,5}	-0.09^{1,2,5,6,7}	-0.39^{1,3,7,8}	-0.31^{1,2,4}	-0.28^{1,2,4,5}	-0.23^{1,2,5}	28.68**
Plan	-0.23^{2,3,4,7,8}	0.31^{1,3,5,6,7,8}	0.03^{1,2,4,5,6}	0.23^{1,2,5,6,7,8}	-0.14^{2,3,4,7,8}	-0.13^{2,3,4,7,8}	0.06^{2,3,4}	0.03^{1,2,4,5,6}	208.66**
Leadership of Team and Peer Performance									
Lead	-0.13^{2,3,4,7,8}	0.13^{1,5,6,7}	0.05^{1,4,5,6}	0.22^{1,3,5,6,7}	-0.04^{2,3,4,7,8}	-0.08^{2,3,4,7,8}	0.03^{1,2,4,5,6,8}	0.12^{1,5,6,7,8}	98.43**

Team	-0.07[2,3,4,5,7,8]	0.14[1,3,5,6,7,8]	0.05[1,2,4,6]	0.14[1,3,5,6,7,8]	0.03[1,2,4,6]	-0.07[2,3,4,5,7,8]	0.06[1,2,4,6]	0.03[1,2,4,6]	108.37**
Management of team and peer performance									
Creat	-0.30[2,3,4,5,7,8]	0.23[1,3,5,6,7]	0.02[1,2,4,5,6,7,8]	0.26[1,2,5,6,7,8]	-0.13[1,2,3,4,7,8]	-0.18[2,3,4,7,8]	-0.01[1,2,3,4,5,6,8]	0.15[1,3,4,5,6,8]	198.18**
Hierarchical Management Performance									
Risk	-0.31[2,3,4,5,6,7,8]	0.16[1,4,5,6,8]	0.23[1,5,6,8]	0.34[1,2,5,6,7,8]	-0.11[1,2,3,4,7]	-0.09[1,2,3,4,7]	0.17[1,4,5,6,8]	-0.02[1,2,3,4,7]	158.50**

Note: Over = Overall Performance, Comp = Adapts/Maintains Composure, Comu = Communicates with Impact, Cust = Demonstrates Customer Service, Syst = Demonstrates System Thinking, Driv = Drives Customer Focus, Resu = Drives for Quality Results, Rapp = Establishes/Maintains Rapport, Sale = Executes the Sales Process, Lead = Leads Teams, Fol = Learns Follows Procedures, Net = Leverages Networks, Plan = Plans Prioritizes Organizes, Solv = Problem Solves, Iss = Resolves Customer Issues, Creat = Resourcefulness/Creativity, Dev = Self Develops, Sell = Sells Effectively, Risk = Takes Appropriate Risks, Own = Takes Ownership, Team = Team Player, Deci = Uses Judgment Makes Decisions. Superscripts indicate profiles that are significantly different at least at $p < .05$.

Table 18: Frequency of trait profiles for each country depending on tightness-looseness scores.

Country	Tightness-Looseness Scores	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5	Profile 6	Grand Total
Indonesia	3.1	11	9	197	114	33	3	367
Egypt	3.9	8	13	218	110	46	13	408
Jordan	5.1	2	3	64	32	11	1	113
Turkey	12.5	5	1	112	64	17	1	200
Algeria	19.2	2	1	14	6			23
South Korea	20.1	1	7	49	21	3	2	83
South Korea	22.4	9	11	168	99	18	7	312
Philippines	31.5	16	4	160	144	12	1	337
China	35.3	74	55	1506	878	192	26	2731
Vietnam	35.9	2		30	15	4	2	53
Venezuela	39.2	3		60	36	9	2	110
Romania	42.4	1		41	21	8	2	73
Poland	42.8	5	5	153	137	22	4	326
Japan	43.3	10	8	158	126	12	2	316
India	43.7	38	14	958	725	62	9	1806
Peru	52.3	2	1	49	20	15	2	89
Singapore	55.2	2	5	82	32	12	1	134
Russia	57.2	3	2	93	66	15	5	184
USA	58	448	472	14729	6674	1696	163	24182
Greece	58.3			1				1
Slovakia	59			1				1
Czech Republic	59.6	2		23	8	5		38
Puerto Rico	63.1	1	2	26	15	3		47
South Africa	67.6			2				2
Italy	67.8			91	33	9		133
Ireland	71.2	1	2	41	9	7	2	62
Mexico	74.7	15	9	632	241	66	6	969
Argentina	75			8	2			10

Netherlands	78.9	2	2	43	26	10		83
Germany	82.9	5	7	186	98	26	6	328
Spain	83.9	7		192	76	23	1	299
Canada	84.6	21	17	620	287	72	12	1029
Chile	86.8	5		79	25	10	1	120
Portugal	87.4	3	1	47	20	10	1	82
Sweden	87.9			1				1
France	99.6	3	3	145	51	14	4	220
Belgium	119.8	2	1	22	14	9	1	49

Note. Profile1 = Undesirable; Profile2 = Overcontrolled; Profile3 = Resilient; Profile4 = Adaptable; Profile5 = Extreme; Profile6 = Undercontrolled.

Table 19: Frequency of facet profiles for each country depending on tightness-looseness scores.

Country	Tightness-Looseness Scores	Profile 1	Profile 2	Profile 3	Profile 4	Profile 5	Profile 6	Profile 7	Profile 8	Grand Total
Indonesia	3.1	14	5	140	4	34	95	66	9	367
Egypt	3.9	14	6	173	2	31	104	65	13	408
Jordan	5.1	5	1	34	1	20	31	19	2	113
Turkey	12.5	7	6	77		13	54	36	7	200
Algeria	19.2	2	1	9	1	4	5	1		23
South Korea	20.1	4		39	2	7	17	7	7	83
South Korea	22.4	11	4	131	3	28	88	39	8	312
Philippines	31.5	18	7	121	2	30	121	25	13	337
China	35.3	84	25	1136	28	181	841	369	67	2731
Vietnam	35.9	3		19		7	14	8	2	53
Venezuela	39.2	2	1	47	1	7	32	17	3	110
Romania	42.4	2		30		9	20	11	1	73
Poland	42.8	8	5	113	6	23	114	35	22	326
Japan	43.3	13	5	119	4	21	110	24	20	316
India	43.7	39	19	777	40	62	679	136	54	1806
Peru	52.3	2	2	33		2	19	29	2	89
Singapore	55.2	1		52	6	14	32	23	6	134
Russia	57.2	11	3	66	2	18	55	23	6	184
USA	58	923	651	9291	595	3167	4947	3666	942	24182
Greece	58.3					1				1
Slovakia	59							1		1
Czech Republic	59.6	1	1	19		2	8	5	2	38
Puerto Rico	63.1	3	1	20		4	11	8		47
South Africa	67.6			1		1				2
Italy	67.8	2	2	53	8	7	23	16	22	133
Ireland	71.2	1		31	2	4	9	14	1	62
Mexico	74.7	16	20	437	48	74	177	161	36	969

Argentina	75			7	2				1	10
Netherlands	78.9	3	3	32	1	2	24	13	5	83
Germany	82.9	9		147	4	15	89	39	25	328
Spain	83.9	5	5	127	7	26	71	40	18	299
Canada	84.6	42	16	414	22	134	218	139	44	1029
Chile	86.8	5	1	46	3	14	23	25	3	120
Portugal	87.4	1	1	39		4	18	17	2	82
Sweden	87.9						1			1
France	99.6	7	3	98	6	13	50	30	13	220
Belgium	119.8			19		1	16	9	4	49

Note. Profile1 = Humble; Profile2 = Go-getter; Profile3 = Ordinary; Profile4 = Entrepreneur; Profile5 = Pillar; Profile6 = Mediocre; Profile7 = Supreme; Profile8 = Free Spirit.

Table 20: Significant cross-level interactions based on traits.

Outcome	Undesirable	Overcontrolled	Resilient	Adaptable	Extreme	Undercontrolled
Demonstrates Customer Service	$\beta_{Overcontrolled} = -0.02^{*}$ $\beta_{Resilient} = -0.01^{*}$ $\beta_{Adaptable} = -0.01^{*}$ $\beta_{Extreme} = -0.02^{*}$	$\beta_{Undesirable} = 0.02^{*}$	$\beta_{Undesirable} = 0.01^{*}$	$\beta_{Undesirable} = 0.01^{*}$	$\beta_{Undesirable} = 0.02^{*}$	
Learns Follows Procedure	$\beta_{Overcontrolled} = 0.01^{*}$ $\beta_{Resilient} = 0.01^{**}$ $\beta_{Adaptable} = 0.01^{**}$	$\beta_{Undesirable} = -0.01^{*}$	$\beta_{Undesirable} = -0.01^{**}$	$\beta_{Undesirable} = -0.01^{*}$		
Problem Solves	$\beta_{Resilient} = 0.01^{*}$ $\beta_{Adaptable} = 0.02^{**}$		$\beta_{Undesirable} = -0.01^{*}$ $\beta_{Adaptable} = 0.01^{*}$ $\beta_{Extreme} = -0.01^{*}$	$\beta_{Undesirable} = -0.02^{**}$ $\beta_{Extreme} = -0.01^{**}$	$\beta_{Resilient} = 0.01^{**}$ $\beta_{Adaptable} = 0.01^{**}$	
Self Develops	$\beta_{Adaptable} = 0.01^{*}$			$\beta_{Undesirable} = -0.01^{*}$		

Note. The column under each profile shows statistically significant post-hoc profile comparison results. * $p < .05$. ** $p < .01$.

Table 21: Significant cross-level interactions based on facets.

Outcome	Humble	Go-getter	Ordinary	Entrepreneur	Pillar	Mediocre	Supreme
Overall Performance	$\beta_{Entrepreneur}$ 0.01*		$\beta_{Entrepreneur}$ 0.01*	$\beta_{Humbled}$ -0.01* $\beta_{Ordinary}$ -0.01** β_{Pillar} -0.01* $\beta_{FreeSpirit}$ -0.01**	$\beta_{Entrepreneur}$ 0.01*		
Communicates with Impact		$\beta_{Entrepreneur}$ 0.01*		$\beta_{Go\text{-}getter}$ -0.01*			
Demonstrates Customer Service	$\beta_{Supreme}$ -0.01**		β_{Pillar} 0.01* $\beta_{Supreme}$ -0.01**	$\beta_{Supreme}$ -0.01**	$\beta_{Ordinary}$ -0.01* $\beta_{Supreme}$ -0.01**	$\beta_{Supreme}$ -0.01**	$\beta_{Humbled}$ 0.01* $\beta_{Ordinary}$ 0.01** $\beta_{Entrepreneur}$ 0.01* β_{Pillar} 0.01* $\beta_{Mediocre}$ 0.01*
Demonstrates System Thinking			$\beta_{Supreme}$ 0.01**	$\beta_{Supreme}$ 0.01**			$\beta_{Ordinary}$ -0.01** $\beta_{Entrepreneur}$ -0.01*
Establishes Maintains Rapport		$\beta_{Ordinary}$ 0.01* $\beta_{Entrepreneur}$ 0.02* β_{Pillar} 0.01* $\beta_{Supreme}$ 0.01** $\beta_{FreeSpirit}$ 0.01**	$\beta_{Go\text{-}getter}$ -0.01*	$\beta_{Go\text{-}getter}$ -0.02*	$\beta_{Go\text{-}getter}$ -0.01*		$\beta_{Go\text{-}getter}$ -0.01**
Executes the Sales Process			$\beta_{Supreme}$ 0.004*				$\beta_{Ordinary}$ -0.004*
Learns Follows Procedure		$\beta_{Ordinary}$ 0.01* $\beta_{Entrepreneur}$ 0.02* β_{Pillar} 0.01*	$\beta_{Go\text{-}getter}$ -0.01*	$\beta_{Go\text{-}getter}$ -0.02*	$\beta_{Go\text{-}getter}$ -0.01*		

		$\beta_{FreeSpirit}$ 0.01**					
Problem Solves	$\beta_{Goal\text{-}getter}$ 0.02* $\beta_{Ordinary}$ 0.01** $\beta_{Entrepreneur}$ 0.02* $\beta_{Mediocre}$ 0.02**	$\beta_{Humbled}$ -0.02*	$\beta_{Humbled}$ -0.01* $\beta_{Entrepreneur}$ 0.01* β_{Pillar} -0.01*	$\beta_{Humbled}$ -0.02* β_{Pillar} -0.01**	$\beta_{Entrepreneur}$ 0.01*	$\beta_{Humbled}$ -0.02*	
Resourcefulness Creativity			β_{Pillar} -0.003*		$\beta_{Ordinary}$ 0.003**		
Takes Ownership					$\beta_{Mediocre}$ 0.01** $\beta_{FreeSpirit}$ 0.01**	β_{Pillar} -0.01**	
Team Player	$\beta_{Entrepreneur}$ 0.01*	$\beta_{Entrepreneur}$ 0.01*	$\beta_{Entrepreneur}$ 0.01*	$\beta_{Humbled}$ -0.01* $\beta_{Goal\text{-}getter}$ -0.01* $\beta_{Ordinary}$ -0.01* β_{Pillar} -0.01* $\beta_{Mediocre}$ -0.01** $\beta_{Supreme}$ -0.01** $\beta_{FreeSpirit}$ -0.01**	$\beta_{Entrepreneur}$ 0.01*	$\beta_{Entrepreneur}$ 0.01*	$\beta_{Entrepreneur}$ 0.01*

Note. The column under each profile shows statistically significant post-hoc profile comparison results. Comparisons for *Free Spirit* are summarized in other profile's columns. * $p < .05$. ** $p < .01$.