

Nonwork Role Importance as a Moderator  
to the Congruence-Satisfaction Relation

by

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## ABSTRACT

Individuals are attracted to occupational environments that align with their interests and personality characteristics (Holland, 1985, 1997). When an individual's attributes (i.e., needs, abilities, values and/or interests) align with the occupational environment's characteristics an individual is more satisfied. Past research suggests this relation is modest at best, hovering between .20 and .30 (Meyer et al., 2001, c.f. Wilkins & Tracey, 2014), with slightly higher estimates (ranging from .24 to .35) depending on how the variables of person and environment were measured (Kristof-Brown, Zimmerman, & Johnson, 2005). Several factors contribute to such low estimates, most notably the role of moderator variables in suppressing or exacerbating the true magnitude of this relation. A moderator that has yet to be explored is that of nonwork role priority, or the degree to which an individual's work identity is valued relative to other role identities. In the current study, three hypotheses were posited to investigate nonwork role priorities as a potential moderator to the congruence-satisfaction relation. Latent class analysis was used to apply a person-centered approach to understanding response patterns and differences in these roles. The sample was differentiated best by a two-class solution and the class variable in all three hierarchical regression models explained about five percent of the variance in job satisfaction, which suggests that work and nonwork role priority are meaningful to understanding individual career happiness. Class was not identified as a significant moderator to the congruence-satisfaction relation. Discussion of limitations to the current study and recommendations for future work in this area are presented.

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## CHAPTER 1

### INTRODUCTION

There is considerable research documenting the interplay between work-family role demand conflict and vocational satisfaction (Mesmer-Magnus & Viswesvaran, 2005; Weer, Greenhaus & Linnehan, 2010); however, very little research exists for the influence of any other type of nonwork behaviors on satisfaction. Until recently, life outside of work has been conceptualized as unidimensional (i.e., everything but work), yet most of the research done on “life” has focused on the study of how family role demands (i.e., parent, spouse, caregiver) influence vocational identities. A newer model of nonwork orientation (Hall, Kossek, Briscoe, Pichler, & Lee, 2013) considers the structure to be multidimensional across three domains: family, personal life, and community service. This model provides support for understanding the whole person and promotes inquiry into how these different dimensions may enrich or conflict with an individual’s vocational identity and vocational satisfaction.

The concept of occupational fit has been hallmark to vocational psychology since the early 1900s when individuals were encouraged and supported to pursue occupations that aligned with their skills and abilities because those occupations were considered most likely to be satisfying (Parsons, 1909). This theory of vocational choice has continued to evolve in relation to how individuals fit within their occupational environment (Holland, 1985, 1997) and what factors may contribute to varying degrees of fit. When an individual’s attributes (i.e., needs, abilities, values and/or interests) align with the occupational environment’s characteristics an individual is more satisfied. Holland (1959, 1997) outlined six basic interest types (realistic, investigative, artistic,

social, enterprising, and conventional; i.e., RIASEC) to categorize individuals and occupational environments. The degree to which the individual (person) and occupational (environment) variables are congruent produces a measure of Person-Environment (P-E) fit. However, several variables have been posited or examined as moderators to this relationship, including vocational identity (Spokane, 1985), culture and age (Tsabari, Tziner, & Meir, 2005), group affiliation (Vogel & Feldman, 2009), differentiation of interests (Holland, 1997), interest flexibility (Darcy & Tracey, 2003), and degree of adherence to Holland's RIASEC scores to a circumplex structure (Tracey, 2002, 2008).

In lieu of these potential moderators to occupational congruence and job satisfaction and through the lens of work-family conflict, it seems fitting to consider other salient factors in an individual's life that may enhance or diminish the importance of P-E fit on occupational satisfaction. To date, no research has considered role importance as a moderator of this relationship (although some studies have examined culture to explain the differential influence of individualistic versus collectivist values on the relation between occupational congruence and satisfaction, Tsabari, Tziner, & Meir, 2005). In the current study, I aim to investigate the relative importance of an individual's various nonwork role identities to one's work identity in moderating the congruence-job satisfaction relation. Further inquiry into this phenomenon could shed light on whether occupational congruence matters to the same extent for individuals who place stronger value in their nonwork roles and provide a richer understanding of what contributes to vocational planning and job satisfaction.

## CHAPTER 2

### LITERATURE REVIEW

#### **Overview of Holland's Theory of Vocational Personalities**

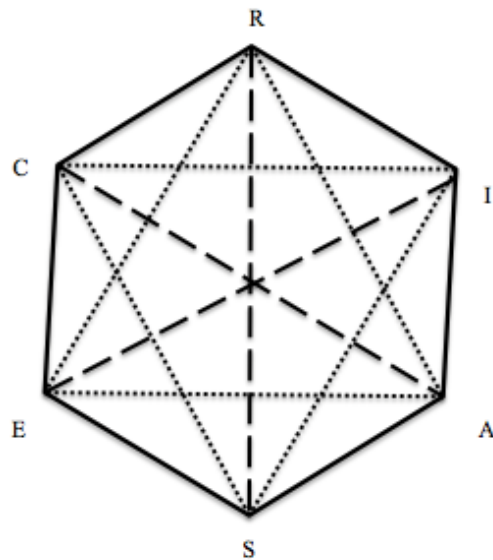
Individuals are attracted to occupational environments that align with their interests and personality characteristics (Holland, 1985, 1997). Holland (1959, 1985, 1997) posits a theoretical framework for understanding how an individual's interests and personality characteristics compare to the characteristics of different occupational environments. He asserts that individuals' personality characteristics, behaviors and attitudes are organized in terms of their resemblance to six basic personality types: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C; RIASEC). Each type serves as a baseline for comparing an individual's coping skills and attitudes within their environment. For instance, Realistic types prefer mechanical, practical, and hands-on tasks, whereas Enterprising types prefer leading and influencing others.

Through assessment (using the Self-Directed Search, Holland, 1994 or Personal Globe Inventory, Tracey, 2002 as examples), a Holland code is produced that synthesizes person variables and categorizes an individual by a first letter code, a three-letter code, or a six-letter code (as discussed in Holland, 1997). Using the first letter code helps classify an individual based on their strongest preferences; however, some individual score profiles may demonstrate low levels of differentiation and a more comprehensive coding system (three- or six-type) will utilize a full information approach to understand an individual's preferences and competencies.

Similarly, Holland suggests occupational environments are dominated by a type of personality and as such can be categorized using the six basic types. Individuals with similar interests and personality types will seek out and create environments that are dominated by those aspects. Holland (1997) argues there would be little utility in classifying an individual if not to provide correspondence to a congruent environment. Thus, a Holland code can be created for the environment using the O\*NET Resource Center (2014) and the Position Classification Index (Gottfredson & Holland, 1991). This environmental information, in combination with an individual's profile codes can be used to examine an individual's fit within certain environments, specifically fit within occupational settings.

### **The Structure of Holland's RIASEC Model**

Holland (1973) defined the six types as forming a hexagon, formally known as the *calculus assumption*, "in which the distances between the types or environments are inversely proportional to the theoretical relationships between them" (p. 5). He suggests that the types are arranged in an ordered hexagon of Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C; RIASEC, See Figure 1).



*Figure 1.* Holland’s hexagonal model of vocational personalities. Solid line segments denote strongest correlations among adjacent types, dotted line segments denote moderate correlations for intermediary types, and dashed line segments indicate weakest correlations among opposite types.

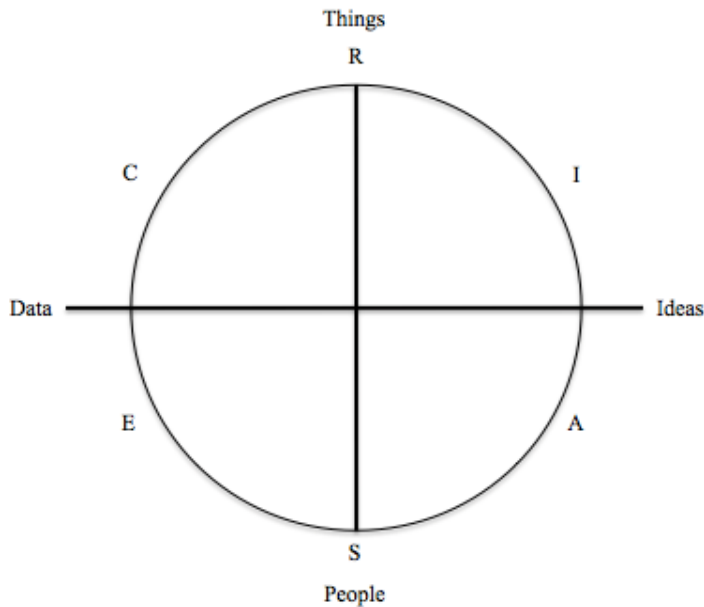
This ordering specifies strongest relations among adjacent types, weakest relations among opposite types, and moderate relations among intermediate types. There is no theoretical or empirical evidence to suggest an equilateral hexagon wherein the spacing among types is relevant to the spatial or ordered relations among them (Rounds et al., 2000). In fact, “Holland explained, ‘If Anne Roe had not preceded me, we would have called it [the hexagon] a circle’ (Weinrach, 1980, p. 408)” (c.f., Nauta, 2010, p. 15).

More appropriately, Holland’s RIASEC model has been described as conforming to a circumplex (Tracey & Rounds, 1993) that assumes stronger correlations for the six adjacent types (RI, IA, AS, SE, EC, and CR) than the six intermediate types (RA, AE, ER, IS, SC, CI), generating 36 order predictions. This model also specifies that weakest correlations exist for opposite types (RS, IE, and AC), thus producing another set of 36

order predictions for these correlations relative to the adjacent and intermediate types correlations. Overall, Tracey and Rounds (1993) indicated that these relational assumptions yield a total of 72 unique order predictions. The circumplex structure has demonstrated better model fit to Holland's theoretical assumptions than competing perspectives, particularly Gati's (1982, 1991) three-group partition model that generates and inaccurate representation of order predictions. A combination model, the Hollgat RIASEC model, that specified the non-redundant predictions of both Holland and Gati's models was also found to produce poorer fit than Holland's ordered and circumplex models (Tracey & Rounds, 1993).

### **Alternate Structural Models of Vocational Identities**

Prediger (1982) posited a complementary perspective to Holland's (1973) model that suggested individual's interests could be explained across two bipolar dimensions of People/Things and Data/Ideas. His assertion was that Holland's two-dimensional hexagon depicting a pattern of intercorrelations among six types could be consolidated across the two aforementioned dimensions (See Figure 2).



*Figure 2.* Graphical representation of Prediger’s two dimensions of People/Things and Data/Ideas alongside Holland’s RIASEC types.

In this model, Holland’s Social and Realistic type forms the poles for People/Things dimension, respectively. The other bipolar dimension is explained by Enterprising and Conventional (Data) and Artistic and Investigative (Ideas). Empirical evidence supported his claims by demonstrating that the two dimensions explained a substantial proportion of variance in interests (a range of 48 to 65% of variance explained across 24 data sets) and that the Holland S, A and E scales were negatively correlated with the Things/People dimension whereas the R, I and C scales were positively correlated with this dimension.

Expanding Prediger’s (1982) dimensional perspective, Tracey and Rounds (1995) argued that the categorical distinction of Holland’s model (i.e., the assumption that the six types are distinct and qualitatively different) was arbitrary and they investigated empirically whether interest items clustered into six clusters or if they were uniformly

distributed around a circle. They found that interest items were uniformly distributed and thus the six Holland types were simply arbitrary and that any slicing of the circle into parts would be equally appropriate. They suggested that eight types would be conceptually superior to six. Subsequently, these researchers (Tracey & Rounds, 1996) found empirical support for a third dimension within Prediger's (1982) model, that of prestige. Prestige explains occupational effort, training, and responsibility and can help differentiate occupational choice for some individuals for who this dimension is salient. These three dimensions in conjunction with Holland's RIASEC types can be depicted as a spherical model of interests (Tracey & Rounds, 1996; Tracey, 1997, 2002).

### **Occupational Congruence**

Holland (1997) defines congruence as an individual's similarity, or resemblance, to their environment. In this case, occupational congruence refers to the degree to which an individual's abilities, skills, interests, and attitudes resemble the occupational environmental demands. Dawis and Lofquist (1984) developed the Theory of Work Adjustment (TWA) to explain how congruence applies to both individuals and environments. TWA (Dawis & Lofquist, 1984, Dawis, 2005) is grounded in the assumption that an individual's ability to meet the demands of an occupational environment (satisfactoriness) and the environment's ability to meet an individual's needs (satisfaction) contribute to job tenure and career success. The degree to which an individual, or person (P), and the environment (E) are able to meet each other's needs is defined as Person-Environment (P-E) fit, or congruence. Those individuals who meet the environment's needs are also rewarded for their efforts (Dawis, 1994; Schneider, 1987, c.f., Bretz & Judge, 1994). And, individuals who fit better than average, report more



satisfaction, earn higher salaries, and attain higher job positions than those who fit below average (Bretz & Judge, 1994).

### **Assessment of Occupational Congruence**

**Holland's (1973) RIASEC Model.** Holland's typology allows for assessment of individuals and occupational environments using commensurate measures (despite criticism from Tinsley, 2000) and produces a measure of similarity, or congruence, across person and environment types. An individual's score profile is evaluated in terms of differentiation, consistency, and congruence (to occupational environment codes). For an individual, profile differentiation refers to how clearly they resemble one of the six basic types. When an individual expresses interest, skill and competency across a variety of types, they produce a poorly differentiated profile. Profile scores also produce evidence of consistency that indicates the relatedness among an individual's high profile scores. Holland suggests that certain types are more similar than others based on their model positioning and an individual who produces high profile scores on similar types (e.g., realistic-investigative) would be considered more consistent in their interests than an individual who produces high scores across non-adjacent types (e.g., realistic-social). Environments can also be described in terms of differentiation and consistency such that an environment that is organized by a range of personalities would also be poorly differentiated and inconsistent. Combined, an individual's score profile code(s) and environmental code are compared to produce a measure of congruence, or person-environment (P-E) fit. High congruence (i.e., strong person and environment fit) relates to better occupational outcomes (i.e., job tenure, job performance, and job satisfaction in

meta-analytic reviews, Assouline & Meir, 1987, Kristof-Brown, Zimmerman, & Johnson, 2005).

### **Outcomes to Occupational Congruence**

Much research (and critique of that research, Tinsley, 2000) exists examining the relation of person-environment congruence and job satisfaction. A series of systematic and meta-analytic reviews have been conducted to evaluate the rather inconsistent congruence-satisfaction relation findings.

Assouline and Meir (1987) conducted a meta-analytic review of 41 studies of congruence to well-being outcomes as follow-up to a previous systematic review that revealed mixed results (Spokane, 1985). They identified 77 correlations to explain the congruence-achievement, congruence-stability and congruence-satisfaction; of these, 53 correlations were representative of the congruence-satisfaction relation. The mean correlation of these 53 correlations was .21, with a confidence interval ranging from -.09 to .51. Follow-up analyses were conducted on 20 correlations that specifically represented relations between an individual's personality and the predominant personality type within a given occupational environment. This analysis produced a mean correlation of .29 with a confidence interval ranging from .20 to .39, suggesting a statistically significant modest congruence-satisfaction relation. Subsequent analyses were conducted on 16 correlations that represented studies that measured congruence as the agreement between an individual's personality or interests and the occupational environment. This analysis revealed a mean correlation of .21 (confidence interval ranging from -.08 to .50) to be interpreted with caution. An additional test was conducted on 8 correlations to examine the congruence-satisfaction relation within specific specialty occupations, which

indicated a mean correlation of .42. Assouline and Meir (1987) recommend caution when interpreting this result given the limited types of occupational specialties that were included within a limited number of studies.

Spokane, Meir, and Catalano (2000) reviewed 66 published empirical studies conducted between 1985 and 1999. They found ongoing support for the strength of the relation between congruence-satisfaction outcomes, and slightly stronger outcome relations (ranging from .32 to .41) than those found by Assouline and Meir (1987). A follow-up meta-analysis by Tranberg, Slane, and Ekeberg (1993, c.f., Tsabari, Tziner, & Meir, 2005) revealed a overall nonsignificant congruence-satisfaction correlation of  $r = .17$  (representative of 22 correlations). The rather inconsistent findings across multiple studies provided justification for a more recent meta-analysis conducted by Tsabari and colleagues (2005). Their findings revealed low congruence-satisfaction relations of  $r = .16$  (across 53 samples), which they attributed to the presence of moderator variables (to be highlighted in the next section).

More recently, a meta-analysis by Kristof-Brown, Zimmerman, and Johnson (2005) examined outcomes to person-organization and person-job fit (a specific type of environmental congruence that examines an individual's fit relative to specific organizational culture and job specific tasks). Findings suggest low to moderate correlations between job satisfaction and person-organization fit (average  $r = .35$  across 65 studies), person-job fit (average  $r = .44$  based on 47 studies) and person-group fit (average  $r = .24$  across 9 studies). These results supported previous meta-analytic findings of Verquer, Beehr, and Wagner (2003) who found similarly modest relations

between person-organization congruence and job satisfaction (average  $r = .25$  across 18 studies).

### **General Discussion of the Modest Relation of Congruence to Career Outcomes**

The main assumption of Holland's (1973, 1985) model (i.e., individual interests cluster into types and these clusters of individuals form environments of similar typed individuals) offers several explanations for the relatively low relations within congruence-outcome research. As reviewed in Wilkins and Tracey (2014) these factors include self-selection of individuals into occupational environments, narrow definitions of interests, magnitude of relations relative to other personality trait relations in the social sciences, fit indices, range restriction, and moderators.

As environments are comprised of similar typed individuals, they tend to retain fewer dissimilar individuals. In effect, individuals self-select into environments that support their skills, abilities and interests whereas they opt-out of dissimilar, and unsatisfying environments. This process of self-selection restricts the variance within environments and contributes to lower outcome relations. Interests have been conceptualized as stable trait-like characteristics (Holland, 1973, Silvia, 2008) and comparable low outcome relations (i.e., correlations of .20 to .30, Meyer et al., c.f., Wilkins & Tracey, 2014) similar to those found in personality and other social science research are to be expected (Tracey, 2007). However, others (Hogan & Roberts, 2000; Schneider, Smith, & Goldstein, 2000; Walsh, 2001, c.f., Wilkins & Tracey, 2014) suggest that limiting comparisons of P-E fit to interests excludes additional important information about both individuals and occupational environments and jeopardizes the likely of finding more substantial outcome relations.

The measurement of fit itself matters too: Young, Tokar, and Subich (1998) reviewed 11 different approaches and found that congruence-outcome relations ranged from .00 to .08 and .04 to .09 across multi-item scale versus single-item measures of job satisfaction, respectively. Conversely, Lent and Lopez (1996) demonstrated much stronger congruence-job satisfaction outcomes of -.25, .22, and .27 across the K-P index (Kwak & Pulvino, 1982), Hexagon Congruence Index (HCI; Swaney & Prediger, 1985) and the C index (Brown & Gore, 1994), respectively. A limitation to each of the indices is in that it only utilizes partial profile information to measure fit, such that the complexity of an individual's full profile is completely ignored in these scores (Tinsley, 2000; Dik, Strife, & Hansen, 2010). The low variability in congruence scores also contributes to low outcome relations (Dik & Hansen, 2010).

Another critique of the modest congruence-outcome relations is attributed to moderator variables that may over or underestimate these relations for certain individuals. Spokane, Meir, and Catalano (2000) suggest that average congruence-satisfaction outcome correlations of .25 with appropriately identified moderators could reach upwards of .40 (approximately 40% of the total variance in job satisfaction). Ongoing identification of appropriate moderators is needed within this area to help explain additional individual variation in career outcomes.

### **Moderators to Congruence-Satisfaction Relations**

Several key moderators have been posited for congruence-outcome relations in general, including vocational identity (Spokane, 1985), culture and age (Tsabari, Tziner, & Meir, 2005), group affiliation (Vogel & Feldman, 2009), differentiation of interests (Holland, 1997), interest flexibility (Darcy & Tracey, 2003), and degree of adherence to

Holland's RIASEC scores to a circumplex structure (Tracey, 2002, 2008). Additional moderators have been tested to explain the congruence-satisfaction relation specifically.

Weiner and Klein (1978, c.f., Spokane, 1985) noted differences in congruence-satisfaction relations based on job tenure such that this relation is stronger for individuals with longer job tenure. Melmed and Meir (1981) examined the role of leisure as moderating the congruence-satisfaction relation. Findings indicated that individuals who reported high occupational congruence also reported high leisure congruence (meaning their leisure activities fit their personality preferences) were more satisfied with their jobs. Conversely, individuals who reported occupational incongruence individuals were dissatisfied with their jobs and attributed higher importance to their leisure activities, which were more congruent with their personalities.

Swaney and Prediger (1985) examined potential moderators of the relation between interest-occupation congruence and intrinsic job satisfaction (IJS), including interest profile clarity, career salience and value placed on interesting work. These researchers defined interest profile clarity as profiles with “a single highest stanine interest score” and consistent three-letter codes that excluded profiles with “codes (a) with the first and second letters on opposite sides of the hexagon... (b) with the second and third letters across the hexagon from the first letter... or (c) with the first, second, and third letters equally spaced around the hexagon” (Swaney & Prediger, 1985, p. 19). They defined career salience as importance placed on work (Greenhaus, 1979, c.f., Swaney & Prediger, 1985) and they differentiated this from their third moderator variable, “valuing interesting work,” by respondent's strong agreement to the item “chance to do interesting work” with lower ratings to other survey items (p. 20). They found that individuals high

in intrinsic job satisfaction reported greater interest-occupation congruence than those low in IJS. They also examined congruence (low, medium and high) and IJS over time and found that when criteria of interest profile clarity, career salience, and value placed on interesting work were met then there were larger differences in satisfaction scores across congruence level (low, medium, and high). Overall congruence was significantly greater for males than females, which they attributed to a restricted occupational variability for females. Their findings were exploratory in nature and subsequent analyses were omitted because of overlapping characteristics of the samples. However, these findings suggest differences in the relation between and individual's occupational fit and his or her satisfaction toward that work as a function of importance (for work in general and for valued work specifically).

One of the assumptions of congruence-outcome research (grounded in Holland, 1997 and the work of Dawis & Lofquist, 1984) is that environments will retain individuals who meet the demands of that environment. In other words, environments will reward individuals for meeting these demands such that individuals will continue to perform desirable behaviors. Individual differences in the value attributed to the environment (i.e., the group) explain variation in behavior choice within these environments. Meir, Keinan, and Segal (1986) conceptualized group importance as the average adherence rating of an individual to the group and its members. They used Holland's Self-Directed Search to calculate individual RIASEC scores. Across eight separate groups, they examined the highest frequency RIASEC type within each environment then used that RIASEC score to describe the environmental characteristics. Congruence was calculated and correlated with a single-item measure of job satisfaction.

Results indicated that group importance was a significant moderator such that stronger congruence-satisfaction correlations were found for individuals who attributed higher levels of importance to their work groups.

Tsabari et al. (2005) specifically measured culture and age as moderators to the congruence-satisfaction relation by examining cross-cultural studies (predominately differences between the United States and Israel). Findings indicated mean congruence-satisfaction correlations of  $r = .23$  and  $r = .13$  for the Israel and United States samples, respectively. The authors suggest that one explanation of these differences may be the cultural constraints on job mobility in collectivistic cultures that is not witnessed in the United States. As such, the United States samples may demonstrate higher range restriction because of cultural permissions to opt-out of dissatisfying environments relative to other cultural groups.

More recently, Ford (2012) has examined potential reasons why job-occupation misfit may arise and result in job dissatisfaction and job strain: mismatch between job expectations and actual job demands, a mismatch between an individual's interests and abilities and the demand characteristics of the environment, and a mismatch through social comparison of one's job characteristics and those of others in similar positions. Ford (2012) assessed two hypotheses of misfit and job satisfaction and found support for a curvilinear relationship between work pressure and satisfaction. In fact, when work pressure (i.e., the perception of having to complete considerable work in a short period) was at or exceeded the expected pressure of a particular occupation, job satisfaction (measured by a 3-item scale with internal consistency reliability of  $\alpha = .76$ ) decreased. Interestingly, when work pressure was lower than expected, increases in pressure



contributed to a slight increase in job satisfaction. This particular finding suggests that some occupational mismatch may contribute to increases in job satisfaction. These findings provide evidence to support investigation into whether occupational mismatch may have differential impact on job satisfaction across other variables, particularly intrapersonal variables that explain job attraction and pursuit.

### **Additional Support and Criticism of Indices of Occupational Fit**

The plethora of research on outcomes of occupational congruence brings with it considerable debate as to what measures and methods are more appropriate for measuring it (Young, Tokar, & Subich, 1998; Tinsley, 2000).

Young, Tokar, and Subich (1998) examined the relation of eleven different congruence indices to two measures of job satisfaction. The sample included 483, predominately White (94%) working adults from 172 different occupational titles with an average age of 36.94 years ( $SD = 11.13$ ). They utilized scores on the original 228-item version of the Self-Directed Search (SDS; Holland, 1985) to categorize each individual on the basis of Holland's six personality types. The SDS determines scores for Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC) types across four indices: activity interest, activity competence, professional interests, and perceived professional ability. These researchers evaluated interest-job congruence by comparing an individual's three-letter Holland code with their three-letter Holland Occupational Classification (HOC) code, which was calculated using the SDS Professional Manual (Holland, 1985) and the *Occupations Finder* (Holland, 1989). Congruence was evaluated across 11 indices: dichotomous first-letter agreement between person and environment codes (Holland, 1963); first-letter agreement based on the hexagon placement; two-letter

agreement index (Healy & Mourton, 1983); Z-S index (Zener & Schnuelle, 1976) based on the probability of three-letter codes across person and environment; three-level congruence index (Wolfe & Betz, 1981); compatibility index (Wiggins & Moody, 1981); ranked comparison congruence scale (Robbins, Thomas, Harvey, & Kandefer, 1978); Iachan's (1984) M index; Sb index (Gati, 1985); K-P index (Kwak & Pulvino, 1982); and the C index (Brown & Gore, 1994). Intercorrelations between the different indices revealed correlations ranging from .18 to .98 suggesting high variability in the amount of redundancy across measures. The lowest intercorrelations existed between Gati's (1985) Sb index and the other indices (ranging from .18 to .69). The Sb index utilizes a mathematical formula to sum commonalities and differences in the salient scales across both person and environment dimensions and lower intercorrelations between other scales may provide evidence that this index is tapping into a slightly different aspect of person-environment fit than the other indices.

Of some surprise, none of the congruence indices were statistically significantly correlated with the two measures of overall job satisfaction (a finding that supports some of Tinsley's argument presented below). In fact, the highest, non-statistically significant correlation was .09, which is much lower than previous findings of Camp and Chartrand (1992), Assouline and Meir (1987), Tranberg et al. (1993), and Holland (1973, 1985) that found correlations ranging from .15 to .21 (c.f. Young, Tokar, & Subich, 1998). Job satisfaction (in Young et al., 1998) was measured across two scales: a single-item asking participants to respond from 1 (very dissatisfied) to 5 (very satisfied) with respect to their job, and the 4-item Hoppock Job Satisfaction Blank (JSB: Hoppock, 1935) that asks participants to select a statement that most accurately describes their satisfaction for their

current job (scores range from 4 to 28 with higher scores indicating higher levels of satisfaction). Young et al. (1998) did find moderate, statistically significant correlations between congruence indices and satisfaction as a function of Holland personality type or HOC group. For example, within the Holland personality type group, there was a moderate correlation between first letter agreement index congruence scores and JSB job satisfaction scores for Artistic ( $r = .35$ ) and Enterprising ( $r = .31$ ) individuals. Further, for Investigative types, there were moderate correlations between Z-S index ( $r = .25/.25$ ), compatibility ( $r = .30/.30$ ), ranked ( $r = .30/.28$ ), M-index ( $r = .27/.28$ ) and Sb index ( $r = .27$ ) for JSB/single-item job satisfaction scores. Within the HOC group, for Enterprising codes only there were low to moderate statistically significant correlations between JSB scores and certain congruence indices: first-letter, Z-S index, M-index, and the K-P index ranging from .17 to .22. One criticism of the work completed by Young, Tokar, and Subich (1998) is the decision to utilize such seemingly poor measures of job satisfaction as external criteria (e.g., they failed to report reliability estimates of their single-item measure and justified use of the JSB four-item measure based on previously reported reliability estimates of alpha ranging from .76 to .89 and a current sample reliability of .88). Although the JSB reliabilities were not entirely dismal, more recent studies (Ishitani, 2010) have utilized a broader conceptualization of job satisfaction to span two domains of intrinsic and extrinsic job satisfaction (Herzberg, 1966; Herzberg, Mauser, & Snyderman, 1959, c.f., Ishitani, 2010).

Tinsley (2000) argues the various limitations to research conducted in the area of person-environment fit, including that equivalent measures are often not used across both domains and fit indices underestimate the complexity of each domain by reducing

congruence to simplistic difference scores that inherently lose key information. He suggests that it is because of a lack of commensurate measures across person, environment, and outcome variables that some researchers have failed to identify significant results. And those researchers who have created stronger, equivalent measures (i.e., the Minnesota Importance Questionnaire, MIQ, Rounds, Henly, Dawis, Lofquist, & Weiss, 1981, c.f., Tinsley, 2000) have fallen short in their calculations of fit, essentially not taking advantage of the complexity of the measurement tool.

Edwards (1991, as cited by Tinsley, 2000) contributed to the literature an extensive recommendation of 11 acceptable fit indices while Young et al. (1998) furthered this work by evaluating the utility of these indices in explaining occupational satisfaction. Tinsley's (2000) argument is that each of these "indices discards information about the relative contribution of each factor to the index" (p. 153). Often person and environment component scores are combined into average values that diminish the ability to evaluate item-level contributions. He suggests that because of the inherent unreliability of fit indices, person-environment congruence research ought to include an evaluation of the separate components as well.

### **New Perspectives on Measuring Congruence**

As a final contribution, Tinsley (2000) outlines potential alternative approaches to analyzing fit, namely polynomial regression equations (Edwards, 1991), hit-rate analysis to consider accurate and discrepant predictions of success, and a focus on more descriptive aspects of the RIASEC matrices. Since Tinsley's (2000) critique the polynomial regression approach has been challenged by latent congruence modeling (LCM, Cheung, 2009a, 2009b). Other approaches to measuring congruence continue to

dominate the empirical work being conducted within vocational psychology, specifically angular dispersion, Euclidean distance, and profile correlation.

**Polynomial Regression Equations.** Polynomial regressions (PR, Edwards, 1991) allow for testing fit on the basis of an algebraic difference between person characteristics and environmental demands. This approach models a squared, quadratic and interaction term in the model and helps to estimate the unique contribution of each unique component (information isn't lost in the calculation of a difference score). However, the pitfalls of this approach present considerable challenge to its interpretation, including whether quadratic and interaction terms have conceptual understanding within the person-environment fit domain. Further, as with any regression approach that utilizes a term that is calculated from other model variables, a high degree of conceptual and statistical multicollinearity is likely to exist. Overall, this approach is most appropriate with non-commensurate measures of person and environmental characteristics.

**Latent congruence modeling.** Cheung (2009a, 2009b) presents an SEM-based approach that specifies two second-order factors, level (mean) and congruence (difference), and their relation to outcome variables. This approach assumes measurement error in its estimation procedures, a consideration that is liberally violated using other techniques (namely difference scores, profile similarity indices, and polynomial regressions). An LCM approach allows, as Tinsley (2000) requested, to consider the contribution of the relative amount, or level, of the person and occupational components in conjunction with the difference between them. In essence, the model portrays a more complex view of person-environment fit. The item-level congruence model presented in Cheung (2009a) presents a theoretical overview of the approach. An added benefit of this

approach is the ability, again as recommended in Tinsley (2000), to test measurement equivalence of person and occupational characteristics. Despite potential benefits of such an approach, there is limited theoretical justification for evaluating level. In fact, the only documented explanation within the domain of P-E fit to explain level is as a general response tendency (Darcy & Tracey, 2003), which may suggest the need for future researchers to evaluate it using LCM.

**Euclidean distance.** Several authors (Tinsley, 2000; Dik, Strife, & Hansen, 2010) have argued for the calculation of fit indices using an individual's full profile. Given support for the circular structure of interests (Holland, 1997; Tracey & Rounds, 1993), Euclidean distance considers the spatial representation of an individual's (and the environment's) RIASEC scores by converting them to scores along Prediger's (1982) dimensions of People/Things and Data/Ideas. This approach specifies four values (two per dimension) and computes the sum of squared deviations for the same dimension by measure (e.g., an individual's score on People/Things subtracted from the environment's score on People/Things). This approach has been utilized in development (Tracey, 2002) and outcome research (Tracey, Allen, & Robbins, 2012; Tracey & Robbins, 2006; Tracey, Robbins, & Hofsess, 2005; c.f., Wille, Tracey, Feys, & De Fruyt, 2014).

**Profile correlation.** Another approach for measuring congruence that considers the full profile information is profile correlation, which evaluates the rank-ordering pattern of scores among the RIASEC types across two measures for an individual. Wille et al. (2014) utilizes this approach as a secondary source of congruence to assess stability of interest-occupation congruence over time. This index considers whether the strength of relations is consistent for person and environment measures.

Of these new approaches to measuring congruence, both polynomial regression (Edwards, 1991) and latent congruence modeling (LCM, Cheung, 2009a, 2009b) appear less appropriate for use in the current study because neither approach provides a framework for modeling a curvilinear, specifically circular, representation of interests. While polynomial regression can rely on the insertion of quadratic and/or interaction terms into a linear model to account for nonlinear trends in the data, the terms themselves are functions of other variables in the model and present issues (as discussed above) of multicollinearity and questionable interpretability. LCM fails to account for curvilinear relations (Edwards, 2009). It also “shifts attention from the components of congruence to the difference and mean of the components...[and] reintroduces problems with difference scores” (Edwards, 2009, p. 35). In contrast, both Euclidean distance and profile correlation allow for curvilinear relations among variables. Given the circular nature of Holland’s (1973) original hexagonal model (Tracey & Rounds, 1993) a measure of congruence that accounts for the circular pattern is appropriate in the current study.

### **Job Satisfaction**

Several conceptualizations of job satisfaction exist in the vocational psychology literature, including both global and specific ratings. The former concept explains an individual’s overall attitude toward work involvement, whereas the latter sums attitudinal ratings across multiple facets. These multifaceted, specific approaches to measuring job satisfaction capture both intrinsic (e.g., recognition, importance, personal growth and advancement opportunities) and extrinsic (e.g., salary and health benefits) aspects of the construct (Herzberg 1966; Herzberg, Mauser, & Snyderman, 1959, c.f., Ishitani, 2010), but have been criticized by some for including irrelevant or excluding relevant aspects of

satisfaction for specific individuals (Scarpello & Campbell, 1983). Others (Smart et al., 1986, Volkwein & Zhou, 2003) have found empirical support for the differential aspects of job satisfaction, demonstrating that individuals with higher major-occupation fit report higher intrinsic job satisfaction and intrinsic job satisfaction accounts for a higher proportion of variance in overall job satisfaction. Beyond differences in conceptualizing job satisfaction, greater debate exists for how it is measured (Scarpello & Campbell, 1983, Wanous, Reichers, & Hudy, 1997, Nagy, 2002, and Dolbier et al., 2004).

Historically, single-item measures for psychological concepts have been considered acceptable, but cautioned against because of their presumed low reliabilities. Multi-item scales have been argued to be stronger, more robust estimates of these constructs because of the ability to calculate internal consistency reliability estimates as well as produce reliable variances for use in more complex modeling procedures (e.g., structural equation modeling). However, single-item measures have been suggested appropriate for use with narrowly defined constructs (Sackett & Larson, 1990, c.f., Wanous et al., 1997) because minimal, if any, benefit is gained by surveying responses on additional items. In fact, the burden to participants of multi-item scales poorly justifies their use when a construct can be adequately captured by a single measure.

Several single and meta-analytic reviews have been conducted to investigate the utility of single-item measures of job satisfaction over multiple-item scale measures in this domain. Wanous et al. (1997) conducted a meta-analytic review of 17 studies and produced an average uncorrected correlation of  $r = .63$  between single-item measures of job satisfaction and multi-item scale measures. These authors utilized Nunnally and Bernstein's (1994) formula for calculating the correction for attenuation to calculate a



minimum reliability of the single-item measure of job satisfaction, which they reported ranged from .45 to .69. They cite Fried and Ferris (1987) to define an acceptable single-item minimum reliability as being close to .70.

Recent findings (Nagy, 2002) contributed support for the utility of single-item facet measures of job satisfaction over multi-item facet scales. Minimum reliability estimates were calculated and resulted in values ranging from .52 to .76. Results suggested moderate correlations (ranging from .60 to .72) between single-item facet measures (across work, pay, promotions, supervision, and coworkers) and multi-scale measures of these domains using the Job Descriptive Index (JDI, Smith, et al., 1989, c.f., Nagy, 2002). These findings suggest even multi-faceted measures of job satisfaction can be developed using fewer items, again indicating that narrowly defined aspects of a broader concept can be understood (and reliably measured) with singular items.

Additional support for single-item measures of job satisfaction comes from the work of Dolbier et al. (2004) who surveyed public agency employees (N = 745) using a single-item (i.e., “Taking everything into consideration, how do you feel about your job as a whole? On a scale from 1 = *extremely dissatisfied* to 7 = *extremely satisfied*) and a multi-item measure of job satisfaction (Job Satisfaction Scale, JSS, Warr, Cook and Wall, 1979, c.f., Dolbier et al., 2004). Utilizing the correction for attenuation formula described above, they calculated a minimum reliability estimate of .73, compared to an internal consistency reliability for the JSS of  $\alpha = .92$ . They reported a strong, positive correlation ( $r = .82$ ) between the single-item job satisfaction item and the JSS. They established convergent construct validity through significant positive relations between single-item job satisfaction and supervisor support ( $r = .51$ ), coworker support ( $r = .46$ ) and positive

affectivity ( $r = .28$ ). They also reported a negative correlation between this single-item and work stress ( $r = -.35$ ) and negative affectivity ( $r = -.23$ ), providing support for divergent construct validity.

Review of several multi-item scales provides mixed support for the appropriateness of these measures as compared to single-item measures. For example, in Young et al. (1998), a four-item measure of global job satisfaction, the Hoppock Job Satisfaction Black (JSB: Hoppock, 1935) yielded internal reliabilities estimates of  $r = .88$  (consistent with cited previous studies that documented estimates ranging from .76 to .89). Greenhaus, Parasuraman, and Wormley (1990) developed a five-item reverse-coded measure of career satisfaction (as part of a larger supervisory scale) to capture aspects of satisfaction related to promotion, advancement, and achievement. Total scores are calculated by averaging the ratings across the five items with response options ranging from 5 = strongly disagree to 1 = strongly agree. High scores indicate low levels of career satisfaction. Internal consistency reliability for this measure is  $\alpha = .88$ . More recently, Ishitani (2010) developed an eight-item questionnaire to measure eight different aspects of job satisfaction, across intrinsic and extrinsic satisfaction. These items were assessed on a scale of 2 = “satisfied,” 1 = “dissatisfied” and 0 = “don’t know” and summed totals across the two domains, intrinsic and extrinsic, were calculated with alpha reliabilities of .70 and .59 respectively. One explanation for moderate reliability estimates is the categorical nature of the measurement scale, which provides a limited range for an individual’s reported satisfaction.

Overall, single-item measures of job satisfaction appear most warranted in cases when more facet-specific information (i.e., pay, promotions, advancement, benefits, etc.)

provides little additional benefit and may contribute to higher participant attrition rates. However, the interpretative utility of a single-item measure is not without limitation as it produces lower and less stable reliability estimates. In light of this debate, and given the current study's focus on role priorities, it seems appropriate to use a multi-item measure of job satisfaction that can capture the essence of career progress, success, and goal attainment rather than a singular global measure to capture career enjoyment.

### **Work-Family Conflict**

Work and family role demands can be conceptualized from an enhancement (Greenhaus & Powell, 2006) or interference (Ruderman, Ohlott, Panzer, & King, 2002) perspective. Some authors have even argued these perspectives to be co-occurring rather than mutually exclusive (Frone, 2003; Grzywacz & Marks, 2000; c.f., Graves, Ohlott, & Ruderman, 2007).

The enhancement model suggests that work and family roles complement each other to facilitate cross-role satisfaction and positive performance outcomes (Greenhaus & Powell, 2006). From this perspective, these two roles are positively interrelated and role spillover from either role enhances the other role (Edwards & Rothbard, 2000; Greenhaus & Powell, 2006). There are work-to-family (WTF) gains where family benefits from work as well as family-to-work (FTW) gains the approximate a reciprocal benefit of work enhancement due to family roles. Work engagement, comprised of dedication, vigor, and absorption (Bakker, Schaufeli, Leiter, & Taris, 2008; Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002, c.f., Siu et al., 2010) was found to mediate the relationship between family friendly organizational policies, supervisor support, job autonomy, and family support and both WTF and FTW enrichment (Siu et al., 2010).

According to Greenhaus and Powell (2006), coping skills and resources acquired in the family role may promote self-efficacy toward handling difficult situations in the workplace, perhaps buffering stressful workplace experiences. In this capacity, strong commitment to one's family role may serve to strengthen one's ability to handle occupational role stress, specifically measured as degree of occupational congruence in the current study.

Alternatively, the interference model suggests that work and family role demands negatively influence each other when the strain of one domain depletes personal resources available to fulfill the demands of the other role (Frone, 2000; Kossek & Ozeki, 1998, c.f., Graves et al., 2007). This perspective posits a conflict approach to how these two role domains place negative demands on each other: Work obligations deter from family time just as family obligations influence work demands and outcomes (see review by Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Greenhaus & Beutell, 1985).

Role commitment, or role salience, (Amatea, Cross, Clark, & Bobby, 1986) explains the degree to which an individual attributes importance (also time and energy) to specific life roles. Amatea et al. (1986) segmented life roles into four areas: marital role, parental role, homecare role, and occupational role. Parental role commitment was statistically significantly positively correlated with marital role commitment and homecare role commitment, but orthogonal to occupational role commitment. In a more recent study, Graves et al. (2007) evaluated the relation of marital and parental role commitment (as measured by the Life Role Salience Scale, LRSS, Amatea et al., 1986) to family-to-work enhancement. Utilizing structural equation modeling, they examined the influence of family-to-work enhancement on psychological strain and three outcomes

(life satisfaction, career satisfaction and work performance). Results indicated parental role commitment was unrelated to interference and marital role commitment was inversely related to interference. As suspected, interference was positively related to psychological strain, which was inversely related to the outcome variables.

Marital role commitment only was related to family-to-work enhancement and had a positive effect on both life satisfaction ( $\beta = .33$ ) and career satisfaction ( $\beta = .16$ ). There was little effect ( $\beta = -.05$ ) on work performance based on marital role commitment. For those participants who were parents, parental role commitment had a positive effect on family-to-work enhancement ( $\beta = .33$ ) as well as direct and total effects on life satisfaction ( $\beta = .41$ , total effect = .51), career satisfaction ( $\beta = .25$ , total effect = .26), and work performance ( $\beta = .18$ , total effect = .15). In summary, there was no empirical support for the either family role to produce increased family-to-work interference or negatively effect attitudinal or performance outcomes.

According to Rothard, Phillips, and Dumas (2005, c.f., Chen, Powell, & Greenhaus, 2009), individuals vary in their preferences for role segmentation or role boundaries across different work and nonwork roles. Individuals also attribute differential value toward their multiple roles (Meir, Keinan, & Segal, 1986). Chen et al. (2009) examined role boundary congruence between an individual's preferences for role segmentation and the demands of the workplace. They used latent congruence modeling (LCM, Cheung, 2009) to evaluate an individual's preferences for role segmentation related to the workplace's "boundary management 'supplies,'" or workplace structure, policies, and systems to address an individual's preferences, to predict conflict (time- and strain-based) and positive spillover (affective and instrumental; p. 83). They found that

high congruence between workplace preferences and demands decreased work-to-family time-based and strain-based conflict. Although individuals prefer varying amounts of cross-role interruptions and time pressures to meet the demands of their multiple roles, it is when the workplace supports their preferences that time-based conflict decreases. Strain-based conflict refers to an individual's preferences for coping with workplace stress and whether the individual prefers to utilize avoidance coping (i.e., to keep conflict at work compartmentalized from family life) or active coping (i.e., to seek external support for managing difficulties at work). Again, congruence between preferences and supplies (not coping strategy itself) was negatively related to strain-based conflict. Chen et al. (2009) also found that workplace congruence related positively to transferable skill acquisition to the family domain. Surprisingly, the research findings did not support a positive relationship to affective spillover, suggesting that workplace congruence does not necessarily improve mood at home; this may be attributed to the nature of the items established to measure affective spillover, which had a lower internal reliability estimate than any other set of items in the study with  $\alpha = .76$ .

Although Amatea and colleagues (1986) extended the literature on role salience by parsing family role identity into different role responsibilities within one's family role (i.e., spouse, parent, and caretaker), they failed to consider other non-family aspects of nonwork identity. Newer perspectives on role responsibilities posit other salient life roles.

### **Nonwork Role Orientation**

Until recently "nonwork" has been considered a mostly unidimensional "life" construct that consolidates an individual's commitment to activities and roles outside his or her occupational identity into one lump dimension (Eby et al., 2005). Hall, Kossek,

Briscoe, Pichler and Lee (2013) challenged this assumption and developed a multidimensional understanding of nonwork life that reflects the multi-faceted richness of personal fulfillment beyond vocational pursuits. According to these researchers, nonwork priorities are divided across three domains: family, community service, and personal life. In this model, family accounts for a high value placed on the needs of others, including relational partner, children, parents, or others comprising one's primary home support. Community service highlights the importance of giving back to one's community through volunteer or other service work. Lastly, personal life encompasses value placed on self needs, including exercise, hobbies, the arts, and self-care.

Over three studies, Hall et al. (2013) developed and validated a multidimensional measure of nonwork orientations across family, community service and personal life domains. Following a review of the literature and identification of the aforementioned domains, researchers conducted a mixed methods longitudinal inquiry of work-life priorities (study 1) among high-level professionals (majority of whom were women, 88%, and all of whom reported having children). Interview results suggested accuracy of the three aforementioned domains and items were constructed to account for the unique aspects of each area. Initial internal consistency reliabilities across each subscale were moderate to high with coefficient alpha of .70 (personal life), alpha of .91 (family) and alpha of .93 (community service) based on three items, six items, and four items, respectively. Subsequent evaluation of structural validity of the nonwork orientations scale was conducted using a sample of 275 MBA students across three large American universities. This sample was younger than sample 1 (ranging from 21 to 52 with a mean of 28) and was more heterogeneous in its distribution of males (68%) and females (38%).

Scale reliabilities for the second sample demonstrated similar reliabilities coefficient alpha of .60 (personal life), alpha of .92 (family), and alpha of .90 (community service). Items on the personal life subscale were revised to attend to “time for self” aspect of this domain (Hall et al., 2013, p. 546) and a new sample was collected of 484 part-time MBA students across two large US universities. Exploratory factor analysis using principal axis factor analysis produced a three-factor solution consistent with a priori theory of nonwork orientations. Confirmatory factor analysis results indicated good fit (e.g., CFI = .97 and RMSEA = .07), although results should be interpreted with caution as they may reflect capitalizing on the chance characteristics of the sample given failure to split the sample between exploratory and confirmatory follow-up tests. Scale reliabilities for the final sample demonstrated strong internal consistency reliability across all three domains: .85 (personal life), .90 (family) and .83 (community service).

This modern perspective on the multidimensionality of nonwork role orientation offers limited empirical support beyond that of its original developers. However, other similar constructs, i.e., nonwork role commitment have been evaluated in relation to career outcomes. The relatedness of these constructs provides support for further study into the moderating role of nonwork role orientation to occupational congruence-satisfaction relation. According to Weer, Greehaus, and Linnehan (2010), nonwork role commitment (i.e., role importance) was negatively related job performance among a sample of 182 female, predominately White, middle-aged and married legal secretaries. While generalizations to other types of workers should be made with obvious caution, there are important implications of these finding to the present study. Weer et al. (2010) examined the mediated effect of nonwork role acquisition (e.g., transferrable cross-role



skills) and nonwork role demands (i.e., time and energy). Results indicated that nonwork role commitment enhanced job performance through nonwork resource acquisition; however, the emotional energy depletion effects of nonwork energy strain produced a stronger effect on job performance (and contributed to the overall negative relationship of role commitment to job performance).

Although job performance is a measure of productivity and outcome in the workplace, there is some evidence to suggest that individuals who perform well at their jobs are more satisfied with their work. There is also some evidence to suggest an interaction effect between nonwork and work role demands on job performance outcomes. In fact, Haun, Steinmetz, and Dormann (2011) found that low nonwork demands and low work demands resulted in low performance; low nonwork demands and high work demands equaled high performance; high nonwork demands and high work demands resulted in low performance; and high nonwork demands and low work demands contributed to high performance. And, overall high performance was highest when nonwork demands were low and work demands were high.

It is still unknown, however, the true benefit to utilizing a multidimensional approach to understanding nonwork role orientation (utilized interchangeably with role importance and relative role importance hereafter). In Graves et al. (1986), there was a differential influence on career related outcomes (i.e., career satisfaction and work performance) across two related, yet distinct, family roles – marital and parental role; these findings only supported the work-family enhancement perspective. These authors did not measure work role commitment, which did not allow them to control for its

influence in how marital and parental role commitment enhanced career related outcomes.

Some theorists suggest the co-occurrence of enhancement and interference processes in explaining the influence of work and nonwork roles on career outcomes (Frone, 2003; Grzywacz & Marks, 2000; c.f., Graves, Ohlott, & Ruderman, 2007). Controlling for work role commitment would allow a clearer understanding of these processes to determine whether nonwork role commitment across all three domains (family, personal, and community service) have a similar influence on career outcomes.

### **Summary of Current Study**

The literature supports the notion that individuals are complex, multi-faceted beings who, to date, may have been inadequately defined by their “work” and “life” identities. Given the complexity of these individuals, it is worth inquiry into whether the salience, or importance, of their multiple role identities influences the degree to which they fit and report satisfaction within their jobs. In this study, I aim to examine nonwork role importance as a moderator to the relation between occupational congruence and job satisfaction.

There is evidence to suggest that work role commitment influences how much occupational fit matters in explaining job satisfaction (Meir, Keinan, & Segal, 1986). It is less clear how an individual’s attribution of importance across different life roles (i.e., work versus nonwork) may influence an individual’s ability to handle varying levels of misfit (or incongruence) while still maintaining and reporting overall job satisfaction. Ford (2012) indicates that some amount of misfit is expected and manageable and posits that intrapersonal variables may help explain an individual’s ability to deal with

environmental misfit. As such, I will evaluate the importance of life role priority as a moderator to congruence-satisfaction relation. To explore the validity of a multidimensional model of nonwork identity, I will consider person-centered approach and evaluate, using latent class analysis, whether role priorities differentiate individuals in my sample and produce groups (classes) of individuals that then serve as moderators to the congruence-satisfaction relation.

### **Hypotheses.**

**Hypothesis 1.** Consistent with past research, a low to moderate correlation (ranging from .09 to .21, Young et al., 1998; Camp & Chartrand, 1992, Assouline & Meir, 1987; Tranberg et al., 1993; and Holland, 1973, 1985) will exist between person-environment congruence [as defined by two measures of Euclidean distance (individual/occupation scores on the PGI-S versus individual PGI scores and O\*Net job classification scores) and profile correlation between a person's RIASEC scores as measured by the PGI-S, Tracey, 2010, and the environment's RIASEC scores as measured by the PGI-S (Tracey, 2010) with modified response prompt developed for this study] and job satisfaction (Hypothesis 1a).

Related, it is hypothesized that congruence (defined by the three aforementioned measures) will serve as a statistically significant predictor of job satisfaction (Hypothesis 1b).

**Hypothesis 2.** According to Hall et al. (2013) there is theoretical support for a multidimensional model of nonwork identity. From this framework, it is presumed that different score profiles exist for individuals based on how they prioritize these different roles (e.g., family, community, personal). For this study, an additional subscale of work

identity was developed to differentiate how individuals prioritize work identity and other role responsibilities. As no research to date has focused on subscale profiling for this construct, it is hypothesized that four possible groups exist: individuals who value community service more than other roles, individuals who prioritize family over other role responsibilities, individuals who place more importance on their personal needs relative to other roles, and individuals who value their work identity more than any nonwork role.

**Hypothesis 3.** It is hypothesized that role priority (defined by profile classification described previously) will serve as a significant moderator to the relation between occupational congruence (as defined by two measures of Euclidean distance and profile correlation) and job satisfaction. In other words, occupational fit should matter less for individuals who place high importance in their nonwork roles; they should be able to tolerate higher levels of misfit (Ford, 2012).

*Hypothesis 3a.* For individuals who demonstrate higher priority to their work identity (relative to their nonwork identities), the congruence-satisfaction relation will be stronger. This hypothesis is substantiated by the work of Meir, Keinan and Segal (1986) who found that there was a higher congruence-satisfaction relation when higher importance was placed on work group identity. Further, Melmed and Meir (1981) reported that individuals who demonstrated occupational misfit had low levels of job satisfaction, but indicated higher importance to leisure activities.

*Hypothesis 3b.* It is hypothesized that for individuals with a differentiated role profile where family role is elevated, the congruence-satisfaction relation will diminish

suggesting that occupational fit will matter less for individuals who attribute high nonwork role importance to their family role.

*Hypothesis 3c.* For individuals with a differentiated role profile where the personal life role is elevated, it is hypothesized that the congruence-satisfaction relation will be stronger, suggesting that occupational fit will matter slightly more to an individual who values his or her personal life role more than other nonwork roles. If one's hobbies and interests categorize one's personal life role then a work environment that also matches with one's interests will provide a space for personal fulfillment.

*Hypothesis 3d.* It is hypothesized that for individuals with a differentiated role profile where the community service role is elevated, the congruence-satisfaction relation will diminish suggesting that occupational fit will matter less for individuals who attribute high nonwork role importance to their community service role. This hypothesis presumes that if individuals were able to obtain job-like satisfaction through their volunteer efforts, they would be able to tolerate higher amounts of misfit in their jobs.

## CHAPTER 3

### METHODOLOGY

#### **Participants**

Four hundred thirteen workforce employees were recruited using Amazon's Mechanical Turk (MTurk). Participants ranged in age from 19 to 70 years old. The mean age was 38.23 years, standard deviation of 11.81. Total years in the workplace ( $N=412$ ) ranged from 1 to 49 with a mean of 17.94, standard deviation of 11.05. The number of years in a participant's current job ( $N = 412$ ) ranged from under a year to 40 years, with a mean of 5.49 and a standard deviation of 5.08 suggesting job tenure within a specific job was considerably less than the average amount of time working any job.

The sample was relatively evenly distributed on gender, with 45.8% ( $N = 189$ ) of the sample male whereas the remaining 54.2% ( $N = 224$ ) were female. Highest level of education for the participants in this sample was varied, with the largest proportion of participants having obtained a Bachelors degree (35.6%,  $N = 147$ ) or some college (26.4%,  $N = 109$ ). Approximately 20% of participants ( $N = 81$ ) completed high school or earned an Associates level college degree. The remaining 18% of participants ( $N = 75$ ) completed a graduate degree (Masters, Doctorate, or Medical Degree). One participant declined to include education level.

The highest proportions of participants indicated they were either married ( $N = 153$ , 37%) or single ( $N = 143$ , 34.6%). Other participants reported being partnered ( $N = 56$ , 13.6%) or divorced ( $N = 41$ , 9.9%). Approximately three percent of participants selected "other" to describe their relationship status and personalized responses included

widowed ( $N = 8$ , 1.9%) or engaged ( $N = 2$ , .5%). Other single responses included currently separated, divorced but in another relationship, or living with a partner. Six participants opted out of providing relational status information in their responses.

The majority of the sample identified as White ( $N = 337$ , 81.6%). Of the remaining participants, 6.5% identified as African American ( $N = 27$ ), 5.1% identified as Asian/Pacific Islander ( $N = 21$ ), and 3.6% identified as Hispanic ( $N = 15$ ). One participant identified as Native American and 2.7% ( $N = 11$ ) described their race/ethnicity as other, which included participants who described themselves as biracial ( $N = 5$ ), Middle Eastern ( $N = 1$ ), Alaskan Native ( $N = 1$ ), or European American ( $N = 2$ ). Two participants declined to provide information related to race/ethnicity.

### **Participant Recruitment via Mechanical Turk**

Chandler, Mueller, and Paolacci (2013) provide an overview of potential concerns and remedies for using MTurk, which pose minimal threat to validity in the current study. For instance, they outline of utmost concern is nonnaïveté of the online MTurk workers and their ability to network with other workers through online discussion forums about the content of different projects. Given the self-report nature of the current study, this seems of minimal concern. There is also concern that the same participant, or worker, will complete a task more than once. However, there are several precautionary measures to evaluate the uniqueness of a given entry, including an individual's IP address and a system-ban on a worker's ability to submit a duplicate entry. Although a worker could theoretically create more than one worker profile, this is relatively unlikely in a total worker pool of more than 500,000 individuals. Of perhaps more concern is whether the individual workers are, in fact, representative of workforce employees. A study of 3,006

MTurk participants (Gosling, Vazire, Srivastava, & John, 2004, c.f., Buhrmester, Kwang, & Gosling, 2011) reported a diverse sample consisting of U.S. and international individuals, with relatively similar gender distribution, and approximately one-third of non-White individuals. In addition, their sample consisted of slightly older individuals, compared to more typical Internet study participants, with  $M = 32.8$ ,  $SD = 11.5$ . These findings suggest that MTurk participants may represent the diversity of adult working professionals quite well.

Additional concern arises as to whether these workers are committed to the requested tasks. Chandler, Mueller and Paolacci (2013) conducted a small study of 300 online workers and found that the majority were White, the majority participated in the requested tasks at home and alone, but approximately a fifth of these workers engaged in others tasks while completing the surveys (i.e., watching television). Specific instruction requesting that workers find a time and location free from distraction may minimize the likelihood for participants to engage in simultaneous activities. Also, specific recruitment criteria will be set in the current study to exclude individuals who are not currently employed.

**Participant compensation rates.** Buhrmester, Kwang, and Gosling (2011) evaluated the number of responses per hour across compensation level (2 cents, 5 cents, 50 cents) and survey length (5 minutes, 10 minutes, and 30 minutes). Compensation rate was positively related to survey length and across all three survey groups, as pay increased so did response rate. Response rate decreased as the survey length increased; the highest number of responses were collected on a 5-minute survey with a 50-cent compensation rate (40.5 surveys per hour). This was comparatively higher than the



number of responses collected on a 30-minute survey with a 50-cent compensation rate (16.7 surveys per hour). Not surprisingly, high compensation was also found to produce higher quality data. Additionally, compensation rate was found to be positively related to rate to completion (Mason & Suri, 2011), suggesting that workers finish tasks more rapidly when they are compensated more for their work. Given the demands of the current study, and an average completion time of 18 minutes and 26 seconds, each participant was compensated 75-cents. Data collection took approximately two weeks, with the highest volume of responses occurring within the first 72 hours.

### **Measures**

**Demographic survey.** A brief questionnaire will ask participants to record basic demographic information including, sex, age, marital status, race/ethnicity, highest educational level, total number of years in the workplace, and number of years in current occupation (See Appendix A1).

**Person characteristics.** A 32-item modified version of the Personal Globe Inventory - Short (PGI-S, Tracey, 2010, See Appendix A2) was used to measure individual interest RIASEC codes. In this version, participants were asked to respond to each item with respect to interest (1 = very strongly dislike to 7 = very strongly like) and perceived competence (1 = unable to do to 7 = very competent). This abbreviated measure, unlike the original 80-item PGI-S, included items only for measuring Holland's RIASEC types rather than the eight-type model (Tracey & Rounds, 1995), Prediger's (1982) two dimensions of Data/Ideas and People/Things, or the orthogonal dimension of prestige (discussed in Tracey & Rounds, 1996).

Tracey (2010) utilized non-parametric IRT procedures to consolidate the total item pool to the four best items within each of the original PGI (Tracey, 2002) 18 scales (8 interest types, 6 RIASEC scales, and Prediger's (1982) two bipolar dimensions, and high/low prestige). (Note: As prestige was not of interest in the current study, items measuring prestige were excluded to reduce cognitive load of additional item responding on participants.) These four items were evaluated by examining the option characteristic curves (OCC) and differential item functioning (DIF) across gender and ethnicity. Ineffective items were marked for removal based on OCC's and there was no significant pattern of DIF for gender or ethnicity, suggesting that participants with similar interest levels endorsed items similarly regardless of demographic differences. The 80-item PGI-S (Tracey, 2010) also demonstrated comparable fit to that of the original PGI to the circular order hypothesis. Correspondence index (CI) values range from -1.0 to 1.0 and indicate "the number of order predictions met minus the number of order predictions violated divided by the total number of order predictions" (Tracey, 2010, p. 5).

The version of the PGI-S used in the current study was chosen to reduce the burden to participants while still demonstrating strong internal consistency reliability across interests (.71 to .85), competence (.75 to .88) and composite scores (.88 to .93) for the RIASEC scales. Further, the 6 RIASEC scales demonstrated fit to the circular model and the correspondence index (CI) values (CI = .81) were comparable to the original PGI six RIASEC scale structure. Further, the fit to the circular model of the RIASEC scales contained in the PGI-S version was invariant across males and females, and comparable to that of the original PGI.

**Occupational characteristics.** A two-step approach was conducted to evaluate work environment characteristics. First, individuals were asked to provide subjective report of the perceived characteristics of their job environments via the 32-item modified version of the Personal Globe Inventory - Short (PGI-S, Tracey, 2010, See Appendix A3). Participants were asked to rate the degree of task similarity for each of the PGI-S items as related to their current job characteristics. As participants had previously rated these tasks in terms of their own interest and ability, the comparison of their personal characteristics to the characteristics of their job served as a way to assess person-job fit, a type of person-environment fit posited to increase an individual's overall perception of compatibility within a type of vocation (Su, Murdock, & Rounds, 2015).

Next, participants were asked to provide objective environmental information by supplying a self-reported job title for their occupation and a two- to three-sentence description of their occupational role and duties within the workplace (See Appendix A4). The first author then matched each participant's supplied work role information to the occupational titles listed in the O\*NET database and recorded Prediger's (1982) People/Things and Data/Ideas dimensional values for each of these participant these standardized titles (O\*NET Resource Center, 2012). This process of job title classification using the O\*NET ratings has been established as a valid procedure (Rounds, Smith, Hubert, Lewis, & Rivkin, 1999, Eggerth, Bowles, Tunick, & Andrew, 2005, c.f., Wille et al., 2014).

**Job satisfaction.** Overall job satisfaction was conceptualized as an individual's general attitude toward work success and fulfillment. Measurement of this concept was achieved using the five-item Career Satisfaction Scale (Greenhaus, Parasuraman, &

Wormley, 1990). This measure was modified for use in the current study to eliminate confusion of the original reverse scoring. Response options were indicated using a scale of 1 = strongly disagree to 5 = strongly across the five items (see Appendix A5). Average total scores were computed, producing scores ranging from 1 to 5. High scores indicate greater career satisfaction. Internal consistency reliability for this measure is  $\alpha = .88$ . Evidence of convergent validity was established through positive correlations between the Career Satisfaction Scale and measures of supervisory support ( $r = .32$ ) and task-related job performance ( $r = .20$ ).

**Role importance.** Role importance was conceptualized as the priority an individual places across different role demands using the Nonwork Orientation Scale (Hall et al., 2013) consisting of 14 items across three domains: personal life (5), family (5), and community service (4). An additional subscale of work identity, consisting of 6 items was added to the current scale to account for work role salience (See Appendix A6 for final scale items). Score reports are generated across each individual subscale on a Likert-type scale (1 = to little or no extent to 5 = to a great extent on degree of importance) with scores ranging from 5 to 30 for work, 5 to 25 for personal life and family, and 4 to 20 for community service. Total scale scores range from 19 to 100. Across all score reports, low values indicate low levels of importance and high values indicate high priority within or across multiple nonwork domains. The original 14-item Nonwork Orientation Scale produced strong internal consistency reliability estimates across the three subscales: personal ( $\alpha = .85$ ), family ( $\alpha = .90$ ), and community service ( $\alpha = .83$ ). A goal of the current study is to calculate coefficient alpha as a measure of internal consistency reliability for the work identity scale as well. Hall et al. (2013)

provided evidence of divergent construct validity through intercorrelations among the three nonwork scales and three protean career orientation scales (i.e., values-driven, self-directed, and total protean score). These findings revealed a statistically significant correlation between values-driven orientations and community service ( $r = .19$ ) and personal life ( $r = .20$ ) as well as total protean score and community service ( $r = .23$ ) and personal life ( $r = .16$ ). There was a statistically significant correlation between self-directed values and community service priorities ( $r = .19$ ) only. There was a non-significant, almost zero, correlation between all aspects of the protean career orientation scale and the family subscale. Further, support for the three-factor structure of the final version of the Nonwork Orientation Scale revealed good overall model fit (e.g., CFI = .97 and RMSEA = .07).

### **Calculation of Occupational Congruence**

*Euclidean distance* was used to measure occupational congruence across person and environment scales. This measure of congruence converts RIASEC scores from both measures onto Prediger's (1982) two dimensions of People/Things and Data/Ideas. The formula for People/Things (see Appendix 3) applies equal weight to the polar opposite types of Realistic and Social in the model. The People/Things dimension utilizes all six types to determine spatial tilt and representation of item scores. The formula for the second dimension of Data/Ideas (also available in Appendix 3) is scaled to apply equal weight to each of the four types (Realistic and Social are excluded because they represent the poles of the opposite dimension). Dimension scores, using the above weighted formulas, are computed for the individual and the environment. Euclidean distance is then calculated by computing the square root of the sum of squared deviations among

each pair of measures:  $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ , where x represents the People/Things dimension scores for the individual (1) and the environment (2) and y represents the Data/Ideas scores for the individual (1) and the environment (2). Euclidean distance values range from zero to  $\infty$  where zero assumes no difference (i.e., perfect congruence) and  $\infty$  assumes difference (i.e., perfect incongruence).

A second measure of congruence was also calculated, *profile correlation*, to examine the similarity in profile correlations among the RIASEC types across person and occupational measures. The inclusion of this alternate approach in combination with another measure of congruence (as described above) is consistent with current research in the field (Wille et al., 2014; Tracey et al., 2012). Congruence is assessed in terms of similar covariation (i.e., high congruence) versus dissimilar covariation (i.e., low congruence).

## **Procedures**

A user account was created through Amazon's Mechanical Turk (Amazon, 2014). Scale measures (Appendix A) and informed consent (Appendix B) were uploaded and the materials were made available to prospective participants. The MTurk system notifies participant users when new survey tasks are available and thus no additional promotion was conducted. Participants were notified that their participation was voluntary and that they were eligible to opt-out of the study at any time. The initial study notification produced a total of 576 participant responses; however, of these participants, 59 indicated that they were not currently employed and 72 reported that they were not currently working. An additional two participants indicated they were not currently living the U.S.

After careful examination of overlap in these eligibility requirements, 85 participants were excluded from answering subsequent portions of the survey.

Participants who met eligibility requirements and completed the survey items were provided a randomly generated completion code at the end of the survey. They were redirected to their MTurk account and asked to provide this code to indicate study participation and to receive compensation. Participants were provided compensation through their MTurk accounts within one week of survey completion.

Following data collection, one additional participant was excluded from future analyses because of duplication in IP address and survey responses. After accounting for validity items embedded within some of the scale measures, the final sample of eligible participants reduced to 413.

## **Analyses**

**Descriptive statistics.** Item-level descriptive statistics, including means, standard deviations, ranges, kurtosis, and skew were calculated. All descriptive analyses were conducted using the Statistical Package for the Social Sciences (SPSS) Version 22 (IBM, 2013).

Subscale specific descriptive statistics for each of the separate subscales of the Nonwork Orientation Scale (Hall et al., 2013) were also reported. Coefficient alpha estimates were reported to establish evidence of internal consistency reliability within each of the separate subscales of this measure.

Separate reliability analyses were conducted for the remaining measures. Coefficient alpha estimates for each of the 6 RIASEC scales on the Personal Globe Inventory-S for jobs (PGI-S, Tracey, 2010) were calculated. In addition, alpha

reliability estimates were conducted for the interest, competence, composite, and occupation scales separately on the PGI-S (Tracey, 2010) used in this study. Internal consistency reliability was also calculated for the 5-item Career Satisfaction Scale (Greenhaus, Parasuraman, & Wormley, 1990).

**Dimensionality of the Nonwork Orientation Scale.** A series of analyses were conducted to establish the structural validity of the Nonwork Orientation Scale (Hall et al., 2013) in the current study. Alpha reliability estimates were computed for each of the four sub-scales: family ( $\alpha = .95$ ), community ( $\alpha = .88$ ), personal ( $\alpha = .87$ ), and work ( $\alpha = .85$ ) and these were comparable to prior estimates.

A confirmatory factor analysis (CFA) was conducted using Mplus Version 7.3 (Muthén & Muthén, 2014) to establish evidence of structural validity for the four dimensional scale consisting of the original three nonwork dimensions (family, personal and community service; Hall et al., 2013) and the work identity dimension developed for use in the current study. A multidimensional model was tested wherein correlations among the subscales were allowed. The variance of each of the four factors was set to 1. A robust weighted least means squared (WLMSV) estimator was used to account for the ordinal nature of Likert-scale responses. Brown (2006) recommends this estimator over other procedures, i.e., maximum likelihood, because it minimizes the risk of attenuating the relationships among certain variables and producing pseudo-factors. Although maximum likelihood may, under certain circumstances, yield similar results (Rhemtulla, Brosseau-Liard, & Savalei, 2012), using polychoric correlations with WLSMV takes into account Likert response scales (Finney & DiStefano, 2013).



Most participants ( $N = 344$  of 413 total) completed all items. An analysis of missing data yielded 32 patterns of missingness, wherein none of the most frequent patterns (occurring between three and five times in the dataset) contained more than one missing item response. After examining items that were associated with these patterns, there was no discernable systematic explanation for their missingness. Using a robust weighted least squares estimator (WLSMV), Mplus applies pairwise deletion to handle missing data in computing the polychoric correlations and maximizes the use of available data when estimating each correlation.

Global fit was evaluated using chi-square, CFI, WRMR, and RMSEA statistics. Some methodologists have suggested that CFI estimates of .95 or greater, WRMR values less than 1.0, and RMSEA values less than .06 can be interpreted as good fit (Hu & Bentler, 1999; Yu & Muthén, 2002). Individual parameter estimates were examined along with their statistical significance.

**Process of screening for validity of person and environment scales.** A series of validity procedures were conducted were to provide evidence of respondent fidelity. Across all three scales of the Personal Globe Inventory, there were three validity checks. Participants were asked to “mark 4” once on each scale. They were also presented with two duplicate questions on each scale. Agreement within 1.5 scale points across these items indicated acceptable variation and denoted respondent fidelity. A systematic approach was used to evaluate each of these validity checks. First, 16 participants were excluded from subsequent analyses because they did not answer 4 for any of the “mark 4” questions. This reduced the participant count to 474. Next, 21 participants with a greater than 1.5 average difference on the remaining two validity items for the liking

scale were removed from future analyses. After evaluating average item differences for the ability and occupation scales, 29 participants and 11 participants were excluded, respectively. During the process of computing profile correlation scores (results to be presented in later sub-section), 12 respondent profiles produced near to or zero correlations. A zero correlation suggests a total mismatch between a participant's interest profile and occupational environment. While possible, these individuals' specific responses were investigated further. Eight of these individuals demonstrated flat response patterns on the occupation version of the Personal Globe Inventory (i.e., they answered all questions with either a 1 or a 7) and despite responding correctly to the "mark 4" validity question, these individuals responses to these scale items were coded as missing data such that their responses on that scale would be excluded from future analyses. There was no indication of invalid responding across any other scales for these individuals and thus the remainder of their data was retained. This resulted in a final sample of 413 eligible cases.

**Person-Environment fit indices.** To establish validity for use of Euclidean distance as a measure of congruence, which assumes model fit to a circumplex structure, the circular order hypothesis of Holland's interest types was evaluated. As such, Holland's (1997) circular model of interests was evaluated with the randomization test of order relations (Hubert & Arabie, 1987) using RANDALL (Tracey, 1997). This procedure specifies a set of ordered predictions (consistent with theory that specifies strongest relations among adjacent types, lowest correlations between opposite types and moderate relations among intermediate in the model). A correspondence index (CI) was calculated as a measure of fit to the circular model by dividing the difference in the

number of predictions met versus violated by the total number of predictions. CI values range from -1 (every order prediction was not met) to 1 (every order prediction is met). Once fit to the circular model was established, congruence was assessed using Euclidean distance and profile correlation as described previously.

**Congruence-Satisfaction relation.** A Pearson correlation coefficient was calculated to measure the magnitude and direction of the relation between congruence and job satisfaction (Hypothesis 1a). Next, a bivariate linear regression model was specified to examine congruence as a predictor of job satisfaction as outlined in Hypothesis 1b.

**Establishing nonwork role orientation profiles.** To determine whether unique profiles (classes) of individual role orientations existed in this sample, a series of latent class analyses (LCA) were conducted using Mplus Version 7.3 (Muthén & Muthén, 2014). LCA is a type of mixture modeling procedure that does not make the assumption that the individuals sampled in the population can be described as coming from a singular distribution (Pastor, Barron, Miller, & Davis, 2007). LCA treats the model variables as categorical, which given the assumptions set forth earlier via the Likert-scale items of the Nonwork Orientation Scale, seemed an appropriate choice. In other words, LCA ultimately tests whether the data is better explained as consisting of different distributions each with unique parameters. Unlike other types of variable driven analyses (e.g., factor analysis), LCA is a person-oriented approach to understanding similarities in response patterns across items (Collins & Lanza, 2010). Although in scale development and validation procedures there was support found for conceptually distinct subscales within the Nonwork Orientation Scale, it was methodologically superior to incorporate all item-

response patterns into the analysis when determining class differentiation rather than to evaluate class differentiation based on probabilities of obtaining specific summed subscale scores. In evaluating the appropriateness of different class solutions, it is common practice to compare the BIC indices of the different models; a decrease in the BIC when using a more complex model (i.e., one containing more classes) would indicate better fit. However, the interpretability of the more complex solution based on theoretical support is necessary too.

Further, it is known that mixture models have a tendency to produce inaccurate solutions based on local, rather than global, solutions. To resolve this issue, it is most appropriate to use multiple start values when estimating model parameters (McLachlan & Peel, 2000). By using multiple start values, it is possible to increase confidence in the estimated log likelihood values; when the same log likelihood is obtained from multiple datasets this ensures the solution is not based on a local maximum. In the present study, to avoid local maxima, each class solution was conducted using 500 different start points and requested that 50 iterations of the data be conducted for every start point.

**Moderators to congruence.** A hierarchical multiple regression analysis was conducted using SPSS Version 22 (IBM, 2013) to examine the unique contribution of class (i.e., profile distinction) over and above congruence in a model predicting job satisfaction. Next, a cross-product term representing the interaction of the centered congruence value and class was entered into the model to evaluate the presence of a significant moderation effect (Hypothesis 3a-d).

## CHAPTER 4

### RESULTS

Three main hypotheses were tested to examine the contribution of nonwork role importance in explaining the relation between person-environment fit and job satisfaction. Results to follow are organized to first demonstrate evidence for the validity of measures of person and environment characteristics, followed by calculation of fit indices, and subsequent analyses. Global fit indices for the Nonwork Role Orientation Scale (Hall et al., 2013) are also provided to establish structural validity for using this measure in the current sample. Next, results from three separate latent class analyses are presented and a brief justification explaining the choice to use a two-class solution to test subsequent hierarchical regression hypothesis. Lastly, the results from three separate hierarchical regression analyses are presented followed by post-hoc tests of differences in job satisfaction by class.

#### **Reliability estimation and scale validation of the Personal Globe Inventory**

Internal consistency reliabilities for the interest, competence, composite, and occupation scales of the PGI-S (Tracey, 2010) are presented in Table 1. For this sample, the reliability estimates were slightly lower than those calculated during initial development of the measure (see Tracey, 2010 for comparison coefficient alphas for each of the subscales).

Table 1

*Internal consistency estimates on interest, competence, composite, and occupational scales*

Scale	Internal Consistency ( $\alpha$ )			
	Interest	Competence	Composite	Occupation
<i>Eight basic interest scales</i>				
Social facilitating	.63	.78	.76	.61
Managing	.65	.79	.81	.70
Business detail	.88	.87	.91	.86
Data processing	.69	.73	.82	.69
Mechanical	.81	.84	.87	.82
Nature/outdoors	.77	.78	.86	.79
Artistic	.87	.87	.92	.90
Helping	.75	.72	.85	.84
<i>Six basic interest scales</i>				
Realistic	.81	.84	.87	.82
Investigative	.77	.78	.86	.79
Artistic	.87	.87	.92	.90
Social	.86	.91	.89	.83
Enterprising	.77	.85	.86	.75
Conventional	.84	.86	.90	.83
<i>Four basic interest scales</i>				
Things	.86	.88	.92	.86
Ideas	.85	.85	.91	.90
People	.84	.86	.90	.84
Data	.83	.89	.91	.86
<i>Two dimensional scales</i>				
People/things	.87	.91	.93	.91
Data/ideas	.87	.91	.93	.91

The structural properties of the composite scales of the PGI as well as the occupation version of the PGI were examined using the randomized test of hypothesized order relations. There was a significant fit of the circular model to the data ( $p < .0004$ ) for the eight basic interest scales across both the composite index and the occupation index of the PGI-S. Of the 288 total possible predictions, 251 of these predictions were met in the sample for the composite index ( $CI = .75$ ). Similarly 243 of the 288 possible predictions were met ( $CI = .71$ ) for the same on the occupation index version of the PGI-S. These findings are slightly lower than the fit statistics reported in previous validation of the PGI-S (mean  $CI = .88$ ,  $SD = .05$  across interest, competence, and composite scales; Tracey, 2010), but provide reasonable evidence that this sample data adheres to a circular structure.

The results of the randomization test also demonstrated significant fit to a circular model for the six RIASEC interest types across both the composite index and occupation index ( $p < .02$ ). For the composite index, 66 of the total 72 possible predictions were met ( $CI = .85$ ). The fit to the six type circular model was slightly higher than the fit of this sample data to the eight-type model presented above. Further, the composite index fit was comparable to previous validation of the PGI-S across interest, competency, and composite scales (mean  $CI = .81$ ,  $SD = .06$ ; Tracey, 2010). While the occupation index fit was lower, meeting 59 of the total 72 possible predictions for this model ( $CI = .64$ ), it produced statistically significant fit to the circular model.

Overall, the tests of structural validity provided evidence to suggest this data did conform to a circular model and it was appropriate to progress with subsequent analyses.

### **Structural validation of the Nonwork Orientation Scale**

Global fit indices for the four factor model suggested good overall fit,  $\chi^2(164) = 757.78$ ,  $p < .001$ ; WRMR = 1.54; RMSEA = .09 (90% CI: .08 to .1); CFI = .97. Standardized factor

loadings were statistically significant, positive, and ranged from moderate to strong in magnitude across the four factors (see Table 2). The family factor was moderately correlated with the community factor ( $r = .34, p < .01$ ), but remained orthogonal to the remaining factors. The work factor was weak and positively correlated with the work factor ( $r = .26, p < .01$ ) and weak, but negatively correlated with the personal factor ( $r = -.16, p < .01$ ). All remaining factors were orthogonal, providing support for the appropriateness of nonwork role orientation as a multidimensional concept.



Table 2

*Standardized Loadings (Standard Errors) for the 4-Factor Confirmatory Model of Nonwork Orientation*

Items	Subscales			
	Community Standardized	Family Standardized	Work Standardized	Personal Standardized
1. I value being of service to other people in the community where I live.	.84 (.02)	.		
2. Making time to contribute to well-being of my community is of priority for me.	.89 (.02)			
3. I would really not want to have a job that did not allow me time to volunteer in my community.	.83 (.02)			
4. It is important to me to have a job that allows me the flexibility to be involved in my community.	.86 (.02)			
5. My career decisions are made in terms of how they will affect my family.		.90 (.01)		
6. Having time for my family is a driving force in my career decisions.		.87 (.01)		
7. It is really important to me to consider my family's needs when making career plans.		.98 (.01)		
8. My career plans are centered on my family's needs.		.94 (.01)		
9. When I make a decision about my career, I consider how well the new situation would fit with my family priorities.		.94 (.01)		
10. My work gives me a sense of purpose more than other activities.			.77 (.03)	
11. My work defines me.			.83 (.02)	
12. I value my work above all else.			.81 (.02)	
13. I work harder at my work than I do anything else.			.79 (.02)	

14. I prioritize my work above other commitments.	.73 (.03)
15. Work is the least important thing in my life. (R)	.58 (.04)
16. In addition to working or being with family, having time to participate in activities I personally enjoy is really important to me.	.83 (.02)
17. Finding time for myself is important for my overall quality of life.	.77 (.02)
18. Making time for pursuing personal interests is a big priority for me.	.85 (.02)
19. Things don't feel quite right in my life when I have no time to devote to my personal interests.	.79 (.02)
20. Time for self is just as key to my well-being as is time for work and family roles.	.80 (.02)

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*Note.* All standardized parameter estimates were statistically significant at  $p < .01$ .

### **Establishing latent classes**

The two-class solution was the most appropriate fit to the data shown by comparing the BIC for the two-class solution (BIC = 24109.72) to the one-class solution (BIC = 26,137.02). The two-class solution was also the most complex model for which an interpretable solution could be reached for this sample. Specifying a more complex model of 2 (or more) classes resulted in non-positive definite correlation matrices. A non-convergence error of this nature suggests that the 3-class model may be underidentified (i.e., the amount of unknown information exceeds the amount of known information due to a larger number of parameters being estimated for the 3-class model than there is information present in the data). A second plausible cause of non-convergence is the large amount of *sparseness* (Collins & Lanza, 2010) in the correlation matrix when exploring a three-class solution. Given that there were only seven individuals in class three, we can see that this class contains far fewer persons than classes 1 or 2. Furthermore, the strength of this relationship between the nonwork scale items and the latent variable for class could be much weaker for the three-class solution than for the two-class solution. In order to have an interpretable model, a pattern of homogeneity within classes and good latent class separation (between classes) must be observed.

The estimated means plots for the one-, two-, and three-class solutions can be viewed in Figures 3 and 4 respectively.

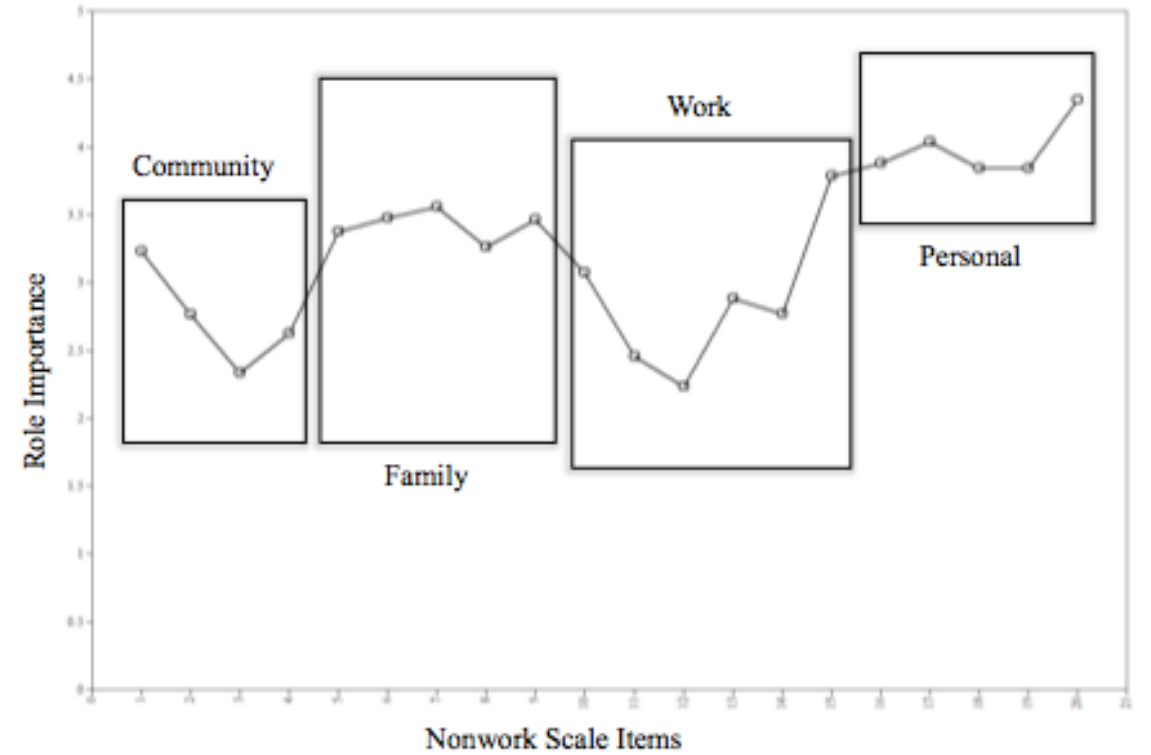


Figure 3. One-class solution plotting sample mean responses the across 20 nonwork items. Note: Along the x-axis the intervals correspond to scale items: 1-4 (community), 5-9 (family), 10-15 (work), and 16-20 (personal).

The one class solution (i.e., the null model) depicts mid-range responding across the community and work scales and higher average responses across the family and personal domains. The data becomes more interpretable when a two-class solution is imposed and respondents across the two classes are differentiated by how they respond to the different subscales. One class of participants (64.4% of the sample) placed a high emphasis on their family role. This role was also prioritized higher than other role responsibilities. These individuals responded higher on average on the community role scale, but the slope of the line was consistent with the other class. The largest class (64.4%) in this data set can be considered “family-high” whereas the other class (35.6%)

can be described as a the “family-low.” Neither class of participants rated their work identity high relative to other life role priorities. The three-class solution provided improvement in fit (BIC = 24,329.07), but was not interpretable. Given its superior interpretability, the two-class solution was retained for subsequent analyses of moderation.

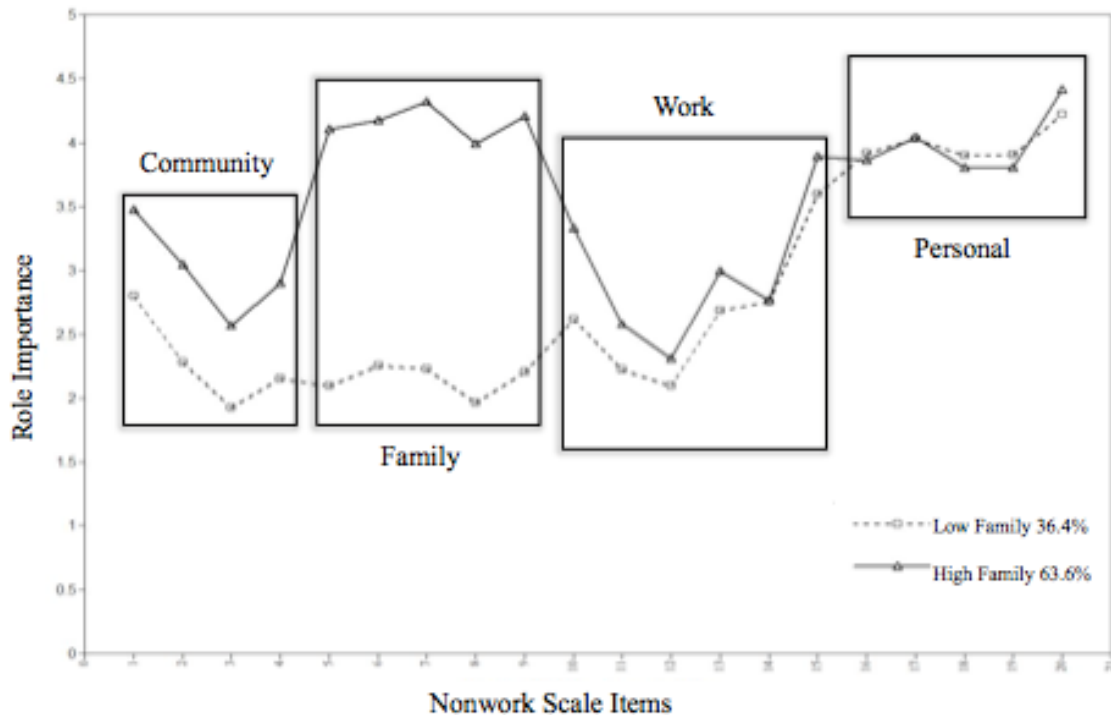


Figure 4. Two-class solution plotting sample mean responses the across 20 nonwork items. Note: Along the x-axis the intervals correspond to scale items: 1-4 (community), 5-9 (family), 10-15 (work), and 16-20 (personal).

As an additional precaution for interpreting the results, a difference score was calculated between the nominal values for gender and class. This difference score denoted a measure of agreement between these two categorical values. Frequencies were computed to determine percentage of agreement between an individual’s inclusions in both of these categories and to rule out the possibility that the class distinction was solely

attributed to gender. Agreement was found in 47.9% ( $N = 198$ ) of participants, suggesting that class assignment was, in fact, not simply a categorical distinction of participants based on gender.

### **Evaluating Fit, Class, and Fit-Class Interaction on Job Satisfaction**

A series of regression analyses were conducted to determine the amount of variance in job satisfaction that could be attributed to an individual's degree of occupational fit. Fit was measured in three ways: 1) Euclidean distance between Prediger's (1982) People/Things versus Data/Idea dimensions on the PGI-S (Tracey, 2010) for person and job characteristics using the same scale but a revised response prompt to denote occupational rather than personal characteristics across the two measures (EUCPGI); 2) Euclidean distance between Prediger's (1982) People/Things versus Data/Idea dimensions on the PGI-S (Tracey, 2010) for person characteristics compared to the dimensional position of that individual's job title determined using the O\*Net database (EUCONET); and 3) the profile correlation of Holland's RIASEC occupational types using item responses on the PGI-S (Tracey, 2010) to compute both person and job characteristics (PROFCOR).

Three bivariate correlations were conducted to test the hypothesis for whether there was a correlation between each of the individual measures of fit and job satisfaction. Results indicated weak positive and statistically significant correlations between job satisfaction and both EUCONET and PROFCOR,  $r = .14$  and  $r = .17$ ,  $p < .01$  respectively. The correlation between EUCPGI and job satisfaction was weak, negative and not statistically significant,  $r = -.03$ ,  $p = .61$ . An overview of the univariate and

bivariate descriptive statistics for the model variables and an overview of the hierarchical multiple regression results are located in Tables 3 and 4, respectively.

Results of a bivariate regression analysis predicting job satisfaction from EUCPGI was not statistically significant,  $F(1, 410) = .26, p = .61$ . Fit (EUCPGI) provided a negligible and non-significant amount of information in explaining the variance in job satisfaction,  $R^2 = .001$  and Adjusted  $R^2 = -.002$ . A hypothesis driving this research was to investigate whether nonwork role priorities served as a moderator in understanding this relation between fit and satisfaction. Thus, the class variable determined in the prior set of analyses (i.e., whether an individual was family-oriented or self-oriented relative to their other roles) was treated as a categorical predictor in the model predicting job satisfaction from fit.

Table 3

*Univariate and bivariate descriptive statistics for three fit indices and job satisfaction*

Variable	$M^a$	$SD$	Pearson's $r^b$
EUCPGI	23.99	12.83	-.03
EUCONET	63.12	15.09	.14*
PROFCOR	.46	.37	.17*
Job Satisfaction	3.32	1.01	--

*Note.* EUCPGI refers to fit across Prediger's People/Things and Data/Ideas dimensions when both person and environmental characteristics were calculated using PGI-S; EUCONET refers to congruence of two-dimensional values calculated using PGI-S for person and O\*Net for occupation; and PROFCOR refers to congruence of RIASEC types when measuring person and occupational characteristics with PGI-S. <sup>a</sup> denotes uncentered means; <sup>b</sup> represents correlation of each centered predictor with job satisfaction, \*  $p < .01$ .

Table 4

*Hierarchical Multiple Regression Analysis Predicting Job Satisfaction from Person-Environment Fit, Nonwork Role Importance Class Affiliation, and the Fit-Class Interaction*

Predictor	Measure of Person-Environment Fit					
	EUCPGI		EUCONET		PROFCOR	
	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$
Step 1						
P-E Fit	.001	-.03	.02*	.14	.03*	.17
Step 1 Model Fit		$F(1, 410) = .26$		$F(1, 410) = 7.57^*$		$F(1, 402) = 11.70^*$
Step 2 <sup>a</sup>						
P-E Fit	.04 (.03)*		.05*		.06 (.05)*	
Class	.001	-.04	.02*	.13	.03*	.16
Step 2 Model $\Delta$ Fit		$F(1, 409) = 15.29^*$		$F(1, 409) = 15.09^*$		$F(1, 401) = 11.97^*$
Step 3 <sup>a</sup>						
P-E Fit	.04 (.03)*		.05*		.06 (.05)*	
Class	.001	-.02	.02*	.16	.03*	.17
P-E Fit X Class	.04*	-.19	.04*	-.19	.03*	-.17
Step 3 Model $\Delta$ Fit		$F(1, 408) = .27$		$F(1, 408) = .49$		$F(1, 400) = .24$

*Note.* EUCPGI refers to fit across Prediger's People/Things and Data/Ideas dimensions when both person and environmental characteristics were calculated using PGI-S; EUCONET refers to congruence of two-dimensional values calculated using PGI-S for



person and O\*Net for occupation; and PROFCOR refers to congruence of RIASEC types when measuring person and occupational characteristics with PGI-S<sup>a</sup>  $R^2$  (adjusted  $R^2$ ) for the total model at each step. \*  $p < .01$

The addition of the class variable (i.e., whether individuals were family-oriented or self-oriented) into the model predicting job satisfaction from occupational fit was statistically significant, explaining approximately four percent of the variance in job satisfaction,  $F(1, 409) = 15.29, p < .01, R^2 = .04$  and Adjusted  $R^2 = .03, \Delta R^2 = .04, p < .01$ . An interaction term was computed after centering the fit variable by multiplying this centered value and the categorical class predictor. Results showed that while the overall model containing the interaction effect was statistically significant there was not a statistically significant contribution of additional explained variance in job satisfaction from the fit\*class interaction,  $F(1, 408) = .27, p > .01, R^2 = .04$  and Adjusted  $R^2 = .03, \Delta R^2 = .001, p = .60$ .

The second measure of fit, EUCONET, was used as a predictor in a new model to explaining job satisfaction and was statistically significant in explaining approximately two percent of the variance in job satisfaction,  $F(1, 410) = 7.57, p < .01$ . When class (i.e., whether an individual was high-family or low-family relative to their other roles) was entered into the model, it accounted for an additional four percent of explainable variance in job satisfaction,  $F(1, 409) = 15.09, p < .01, R^2 = .05$  and Adjusted  $R^2 = .05, \Delta R^2 = .04, p < .01$ . However, when an interaction term was computed to evaluate whether the prediction of job satisfaction from fit differed for individuals who prioritized family over their other role priorities versus those who prioritized personal needs relative to their other roles, it was not statistically significant,  $R^2 = .05$  and Adjusted  $R^2 = .05, \Delta R^2 = .001, p = .49$ . The overall model remained statistically significant when it contained the interaction term because of the fit and class variables, not the interaction of these variables,  $F(1, 408) = .49, p > .01$ .

A final bivariate regression analysis was conducted to assess whether fit, as conceptualized using PROFCOR, was a statistically significant predictor in explaining job satisfaction. The model containing PROFCOR as a predictor of job satisfaction was statistically significant,  $F(1, 402) = 11.70, p < .01. R^2 = .03$  and Adjusted  $R^2 = .03$ . Next, class was entered into the model and results showed role priority (i.e., family or self relative to other role responsibilities) explained additional variance in job satisfaction,  $F(1, 401) = 11.97, p < .01. R^2 = .06$  and Adjusted  $R^2 = .05, \Delta R^2 = .03, p < .01$ . The interaction between fit and class was examined, it was not statistically significant in explaining additional variance in job satisfaction,  $\Delta R^2 = .001, p = .62$ .

As a post-hoc investigation of the difference between the individuals in the two classes, an independent samples *t*-test was conducted to compare average job satisfaction for individuals who prioritized family over their other role responsibilities ( $N = 264, M = 3.47$ ) versus those who did not ( $N = 148, M = 3.07$ ). This mean difference in job satisfaction of ( $MD = .40$ ) was statistically significant, with individuals who prioritize their family role reporting slightly higher ratings of job satisfaction,  $t(410) = 3.87, p < .01$  [95% CI: .20 - .60].

An additional set of post-hoc analyses were conducted to determine whether work identity salience alone was a statistically significant predictor of job satisfaction over and above occupational congruence. A series of three hierarchical regression analyses were conducted for each of the models containing a unique measure of occupational fit (i.e., EUCPGI, EUCONET, and PROFCOR) in step one, followed by the centered average work identity subscale score in step two, and the interaction of occupational congruence and work identity salience in step three. Work identity in each of the models contributed

a statistically significant amount of unique variance (approximately 20 percent) over and above occupational congruence. Table 5 contains the regression results for each of the models, none of which produced a statistically significant interaction effect.

Table 5  
*Hierarchical Multiple Regression Analysis Predicting Job Satisfaction from Person-Environment Fit, Work Identity Importance, and the P-E Fit-Work Identify Interaction*

Predictor	Measure of Person-Environment Fit					
	EUCPGI		EUCONET		PROFCOR	
	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$
Step 1						
P-E Fit	.001	-.03	.02*	.13	.03 (.02)*	.16
Step 1 Model Fit	$F(1, 394) = .40$		$F(1, 394) = 7.23^*$		$F(1, 386) = 10.65^*$	
Step 2 <sup>a</sup>	.21*		.21*		.21*	
P-E Fit	.001	-.01	.02*	.06	.03*	.11
Work Identity	.21*	.46	.21*	.45	.18*	.43
Step 2 Model $\Delta$ Fit	$F(1, 393) = 104.23^*$		$F(1, 393) = 98.07^*$		$F(1, 385) = 89.91^*$	
Step 3 <sup>a</sup>	.21*		.21*		.21*	
P-E Fit	.001	-.02	.02*	.06	.03*	.11
Work Identity	.21*	.46	.21*	.45	.18*	.43
P-E Fit X Work	.001	.03	.001	.01	.001	-.03
Step 3 Model $\Delta$ Fit	$F(1, 392) = .55$		$F(1, 392) = .05$		$F(1, 384) = .45$	

Note. EUCPGI refers to fit across Prediger's People/Things and Data/Ideas dimensions when both person and environmental characteristics were calculated using PGI-S; EUCONET refers to congruence of two-dimensional values calculated using PGI-S for

person and O\*Net for occupation; and PROFCOR refers to congruence of RIASEC types when measuring person and occupational characteristics with PGI-S<sup>a</sup>  $R^2$  (adjusted  $R^2$ ) for the total model at each step. \*  $p < .01$ .

## CHAPTER 5

### DISCUSSION

The purpose of this study was to determine whether role priorities, defined as an individual's attribution of role importance to different life domains (i.e., community, family, work, and personal) are related to the degree to which an individual is able to tolerate misfit in his or her occupational environment. The literature on person-environment fit asserts that the degree to which an individual's personal characteristics align with the characteristics of an individual's occupational environment will determine the degree to which an individual is satisfied. Past research suggests this relation is modest at best, hovering between .20 and .30 (Meyer et al., c.f. Wilkins & Tracey, 2014), with slightly higher estimates (ranging from .24 to .35) depending on how the variables of person and environment were measured (Kristof-Brown et al., 2005). Several factors contribute to such low estimates, most notably the role of moderator variables in suppressing or exacerbating the true magnitude of the congruence-satisfaction relation. Thus, three hypotheses were posited in the current study to investigate nonwork role priorities as a potential moderator to the congruence-satisfaction relation.

An importance aspect of extending this literature in vocational psychology as it relates to P-E fit was to recruit a sample of workforce employees, as so much of the current work in this area has been conducted on convenience samples of high school and college students. One available resource for this type of recruitment was Amazon's Mechanical Turk (MTurk), which presumably provided access to a network of working professionals from various occupational backgrounds. Findings supported the diversity in this sample and participants indicated a unique array of occupational interests. The PGI-

Short scale was examined for structural support in this sample of 413 individuals and produced good fit to the circumplex structure. Using the randomization test of order relations, results indicated adherence to the circular structure for both the six RIASEC scale types and the eight type scales. The scales were shown to have good internal consistency reliability, including the occupation scale version that was developed for use in this current study.

The Nonwork Orientation Scale (Hall et al., 2013) was examined for psychometric support as well in the current sample and produced good overall fit to a four-factor model. The individual subscales of this measure produced good internal consistency reliabilities and the inter-item correlations for each of the subscales were moderate to high for the community, family, and personal domains; inter-item correlations were low to moderate for the work subscale developed for this study and may be unique for this particular sample of workforce employees. The family role was positively correlated with community and negatively correlated with work, suggesting similarities between family and community role responsibilities.

One of the advantages of using latent class analysis (LCA) is it provides person-oriented framework for understanding response patterns and group classification within a particular sample. Unlike other approaches (e.g., factor analysis), LCA prioritizes the individuals when understanding differentiation in the data. As LCA is interested in response patterns, it's recommended to evaluate differentiation in item-level responses (Collins & Lanza, 2010). Results suggested that a two-class solution fit the data best, producing the lowest BIC value and without producing a non-convergence error, which occurred when specifying a more complex three-class solution. The two-class solution



revealed an interesting set of response patterns to differentiate the individuals in this sample. The largest group (approximately 65%) prioritized the needs of their family members when making decisions about their careers. These individuals also valued “to a considerable extent” how career decisions influence their families as well as their ability to spend time with their family members. These individuals also reported a slightly stronger value for community service than did the other group, although both groups reported lower priority to having a job that provided flexibility to be involved in community service over simply the value of being able to create time for community service, suggesting that service opportunities within the workplace may not be as important for these individuals as a work schedule that provides opportunity to community involvement after hours. The smaller group (approximately 35%) considered the needs of their family members “to a limited extent” when making career decisions. Agreement index results comparing gender assignment and group classification revealed that the class variable was not gender. In other words, there was relatively equal distribution of men and women within both the high-family and low-family groups.

Interestingly, there were few differences in these two groups on any other role domain and both groups lowly prioritized the work role. This finding is perhaps more suggestive of a unique characteristic of MTurk workers, who by nature may have less stringent work roles and responsibilities as they have time to complete online survey tasks. In this sample, individuals did not endorse highly that “work defines me.” They endorsed highly the reverse coded item that “work is the least important thing in my life,” again suggesting that work is not a high priority for any of the individuals in this sample. Another unique aspect of this sample is that there was no group differentiation across the

personal domain items and both groups responded similarly across these items. Within both groups, individuals prioritized their own personal needs and interests. For the group that highly prioritized their family role, they equally highly valued pursuing their interests as a means of maintaining good quality of life.

Results from three separate hierarchical regression analyses revealed differences in the congruence-satisfaction relation based on how fit was measured. Fit was measured in three ways: 1) Euclidean distance between Prediger's (1982) dimensions of People/Things and Data/Ideas when using the PGI-S (Tracey, 2010) for measuring both personal and occupational characteristics (EUCPGI); 2) Euclidean distance between Prediger's (1982) dimensions of People/Things and Data/Ideas when using the PGI-S (Tracey, 2010) to measure person characteristics and using the O\*Net database to measure occupational environment (EUCONET); and 3) profile correlation of Holland's RIASEC occupational types using item responses on the PGI-S across both person and job characteristics (PROFCOR). The congruence-satisfaction relation was statistically significant when measuring fit as EUCONET or PROFCOR, but not when measuring fit as EUCPGI. This finding suggests that the items and/or response prompt for the PGI-S for measuring occupational environment characteristics may require additional modification. The congruence-satisfaction relations for the other measures of fit produced correlations slightly lower, but comparable to past research in this area (Meyer et al., c.f. Wilkins & Tracey, 2014).

Although the class variable contributed meaning explainable variance to understanding differences in job satisfaction within this sample, there was not a significant interaction effect for fit by class. The class variable in all three models

explained about five percent of the variance in job satisfaction, which suggests that work and nonwork role priority is meaningful to understanding individual career happiness. Individuals who reported a higher value on family were statistically significantly more satisfied with their work. Subsequent research in this area may consider what else about individuals who value the needs of their family members when making career decisions contributes to greater career satisfaction. It is possible that individuals who prioritize family or the needs of others may seek jobs with more flexible hours or have a greater network of nonwork relationships to provide them an outlet from a challenging work environment.

Post-hoc analyses revealed work identity as a statistically significant predictor of job satisfaction beyond the degree of occupational congruence. This finding suggests that the value an individual places on his or her work role contributes to how well an individual finds satisfaction in that occupation. This result is not surprising, but warrants additional inquiry given some of the aforementioned limitations with how each of the life roles, particularly work, were measured. Future researchers ought to develop more discriminating measures to explore the unique contribution of different life roles.

There were several limitations to the current study. First, the uniqueness of the sample of MTurk workings may minimize the likelihood of generalizability of these findings to other samples of working professionals. The process of self-selection into the MTurk database creates potential problems when considering whether these individuals capture the true variance in workplace employee characteristics. Individuals in this sample were diverse across age, years in the workplace, and occupational titles; however, only individuals with a current MTurk account were recruited for this study. This

database offers individuals an opportunity to respond to survey questions for minimal compensation and some individuals indicated in personal correspondence with the primary author that they hoped for greater compensation and used MTurk as a supplemental source of income. Participants were compensated very minimally (75-cents) for their participation in the current study, which may explain some of the missing data patterns for such a large survey. Several participants were also screened out of the study because they did not reside in the United States, which also suggests that this sample may misrepresent who comprises the MTurk database (i.e., the population of MTurk workers is clearly much more diverse than this sample of U.S. workers). There remains a need to conduct research in this area using workforce employees, but future researchers may consider alternate recruitment methods or screening procedures to ensure results generalize appropriately to the larger workforce population.

Related to the sample characteristics, this sample was not particularly high or differentiated on work role identity. As such, the only differentiated factor for this sample was family priority. Future work may consider obtaining a larger and more diverse sample to determine if other classes of individuals emerge and whether these classes produce differences in job satisfaction or serve as a moderator to the congruence-satisfaction relation.

It is also unclear from demographic knowledge of this sample whether the class differentiation reflects group differences of participants who have families compared to those who do not. It is unknown whether these participants in this sample are caretakers in addition to employees or whether they have children. Knowledge of these variables would help to make stronger interpretations. Future research ought to consider adding

demographic questions to capture current family responsibilities (i.e., number of children or whether an individual is currently caring for children or aging parents).

Few available measures of occupational environmental characteristics exist and is recommended in the literature (Tinsley, 2000) that research in this area ought to rely on commensurate measures for person and environment. As such, an occupation version of the PGI-S was created for this study such that person and environment characteristics were measured using the same items, but different response prompts. However, the congruence-satisfaction relation when measuring fit by the difference between person-environment across these two versions of the PGI-S, did not produce statistically significant results. One explanation could be that when using commensurate measures (i.e., identical items with different response prompts) there is inherently less variation in the fit indices that are produced. Minimal variance in congruence would minimize the likelihood of capturing differences in job satisfaction using this variable and produce non-significant results. Future research ought to focus on refining the PGI-S for occupations as a suitable measure to use when calculating person-environment fit.

Overall, evidence was found to support two of the research hypotheses. First, there was a statistically significant congruence-satisfaction relation for two of the indices of fit that was comparable to past research. Occupational congruence explained a statistically significant portion of variance in job satisfaction. Second, there were two different classes that emerged from the data in this sample: one class defined individuals who were high on family priority and one class described individuals who were low on family values. There were no other relevant or interpretable classes that emerged from the data. Class was a statistically significant predictor in the model explaining job

satisfaction, but did not serve as a statistically significant moderator to the congruence-satisfaction relation. Findings suggest that future work in the area of nonwork priority is necessary and important to understanding career satisfaction.

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APPENDIX A  
MEASURES

## Appendix A1 Demographic Questionnaire

Please respond to the following demographic questions:

1. Sex
  - a. Female
  - b. Male
2. Age (in years)
3. Highest Level of Education
  - a. High School
  - b. Some College
  - c. College Graduate
  - d. Master's Degree
  - e. Doctoral Degree (PhD)
  - f. Medical Degree (MD and/or DO)
4. Relationship Status
  - a. Single
  - b. Partnered
  - c. Married
  - d. Divorced
  - e. Other (please specify)
5. Race/Ethnicity
  - a. White
  - b. Hispanic
  - c. African American
  - d. Native American
  - e. Asian/Pacific Islander
  - f. Other (please specify)
6. Number of Years Total in the Workplace
7. Number of Years in Current Job

## Appendix A2

### Personal Globe Inventory – Short (modified from Tracey, 2010)

Please look at the following list of activities and respond to each TWICE. Once regarding how much you like the activity and once regarding your ABILITY or COMPETENCE to do the activity. Use the scales listed below to rate Liking and Ability.

#### Liking

Strongly Dislike			Neutral			Strongly Like
1	2	3	4	5	6	7

#### Competence

Unable to Do			Moderately Competent			Very competent
1	2	3	4	5	6	7

1. Seat patrons at a restaurant (S and E) i1
2. Oversee a hotel (E) i2
3. Prepare financial reports (C) i3
4. Oversee a data analysis group (C) i4
5. Install electrical wiring (R) i5
6. Categorize different types of wildlife (I) i6
7. Sculpt a statue (A) i7
8. Help children with learning problems (S) i8
9. Interview people for a survey (S and E) i11
10. Manage an office (E) i12
11. Maintain office financial records (C) i13
12. Manage an electrical power station (C) i14
13. Oversee building construction (R)\* i15
14. Write a scientific article (I) –i16
15. Paint a portrait (A) i17
16. Teach people to dance (S) i18
17. Sell clothes to others (S and E) i21
18. Oversee sales (E) i22
19. Keep records of stock sales (C) i23
20. Write computer programs for business (C) i24
21. Inspect construction sites for safety (R) i25
22. Teach science (I) i26
23. Write a play (A)\* i27
24. Teach others cooking (S) i28
25. Escort people through a television studio (S and E) i31
26. Organize office records (E) i32
27. Establish a business accounting procedure (C) i33



28. Analyze survey maps (C) i34
29. Assemble precision optical instruments (R) i35
30. Study wildlife (I) i36
31. Draw cartoons (A) i37
32. Supervise children in a nursery (S) i38

\*Denotes items that were duplicated as validity measures.

Scoring template to produce raw scores for each scale of the PGI-Short (excluding prestige)

1. Social facilitating =  $i1 + i11 + i21 + i31$
2. Managing =  $i2 + i12 + i22 + i23$
3. Business detail =  $i3 + i13 + i23 + i33$
4. Data processing =  $i4 + i14 + i24 + i34$
5. Mechanical =  $i5 + i15 + i25 + i35$
6. Nature/outdoors =  $i6 + i16 + i26 + i36$
7. Artistic =  $i7 + i17 + i27 + i37$
8. Helping =  $i8 + i18 + i28 + i38$
9. People  $.924 * (\text{Scale } 8 + \text{Scale } 1) + .383 * (\text{Scale } 2 + \text{Scale } 7)$
10. Things  $.924 * (\text{Scale } 4 + \text{Scale } 5) + .383 * (\text{Scale } 3 + \text{Scale } 6)$
11. Data  $.924 * (\text{Scale } 2 + \text{Scale } 3) + .383 * (\text{Scale } 1 + \text{Scale } 4)$
12. Ideas  $.924 * (\text{Scale } 7 + \text{Scale } 6) + .383 * (\text{Scale } 5 + \text{Scale } 8)$
13. Realistic = Scale 5
14. Investigative = Scale 6
15. Artistic = Scale 7
16. Social =  $(2 * \text{Scale } 8 + \text{Scale } 1) / 3$
17. Enterprising =  $(2 * \text{Scale } 2 + \text{Scale } 1) / 3$
18. Conventional =  $(2 * \text{Scale } 4 + \text{Scale } 3) / 3$
19. People/things = Scale 9 – Scale 10
20. Ideas/data = Scale 11 – Scale 12

### Appendix A3

Next, please look at the following list of activities and respond to each regarding how SIMILAR the described task is to the tasks associated with your WORK environment.

#### Similarity

Not at all similar			Moderately Similar			Very similar
1	2	3	4	5	6	7

1. Seat patrons at a restaurant (S and E) i1
2. Oversee a hotel (E) i2
3. Prepare financial reports (C) i3
4. Oversee a data analysis group (C) i4
5. Install electrical wiring (R) i5
6. Categorize different types of wildlife (I) i6
7. Sculpt a statue (A) i7
8. Help children with learning problems (S) i8
9. Interview people for a survey (S and E)- i11
10. Manage an office (E) i12
11. Maintain office financial records (C) i13
12. Manage an electrical power station (C) i14
13. Oversee building construction (R)\* i15
14. Write a scientific article (I) -i16
15. Paint a portrait (A) i17
16. Teach people to dance (S) i18
17. Sell clothes to others (S and E) i21
18. Oversee sales (E) i22
19. Keep records of stock sales (C) i23
20. Write computer programs for business (C) i24
21. Inspect construction sites for safety (R) i25
22. Teach science (I) i26
23. Write a play (A)\* i27
24. Teach others cooking (S) i28
25. Escort people through a television studio (S and E) i31
26. Organize office records (E) i32
27. Establish a business accounting procedure (C) i33
28. Analyze survey maps (C) i34
29. Assemble precision optical instruments (R) i35
30. Study wildlife (I) i36
31. Draw cartoons (A) i37
32. Supervise children in a nursery (S) i38

## Appendix A4

### Current Occupation Information Sheet

1. What is your current job title?
2. Please write a two- to three-sentence description of your current occupational role and duties within the workplace:

## Appendix A5

### Career Satisfaction Scale (Greenhaus, Parasuraman, & Wormley, 1990)

Using the scale below, please indicate your level of agreement with the following items:

1	2	3	4	5
Strongly disagree	Disagree to some extent	Uncertain	Agree to some extent	Strongly agree

1. I am satisfied with the success I have achieved in my career.
2. I am satisfied with the progress I have made toward meeting my overall career goals.
3. I am satisfied with the progress I have made toward meeting my goals for income.
4. I am satisfied with the progress I have made toward meeting my goals for advancement.
5. I am satisfied with the progress I have made toward meeting my goals for the development of new skills.

## Appendix A6

### Nonwork Orientation Scale (modified from Hall et al., 2013)

Please respond to the following statements on degree of importance on the following scale:

1	2	3	4	5
To little or no extent	To a limited extent	To some extent	To a considerable extent	To a great extent

1. I value being of service to other people in the community where I live.
2. Making time to contribute to well-being of my community is of priority for me.
3. I would really not want to have a job that did not allow me time to volunteer in my community.
4. It is important to me to have a job that allows me the flexibility to be involved in my community.
5. My career decisions are made in terms of how they will affect my family.
6. Having time for my family is a driving force in my career decisions.
7. It is really important to me to consider my family's needs when making career plans.
8. My career plans are centered on my family's needs.
9. When I make a decision about my career, I consider how well the new situation would fit with my family priorities.
10. My work gives me a sense of purpose more than other activities
11. My work defines me
12. I value my work above all else.
13. I work harder at my work than I do anything else.
14. I prioritize my work above other commitments.
15. Work is the least important thing in my life.
16. In addition to working or being with family, having time to participate in activities I personally enjoy is really important to me.
17. Finding time for myself is important for my overall quality of life.
18. Making time for pursuing personal interests is a big priority for me.
19. Things don't feel quite right in my life when I have no time to devote to my personal interests.
20. Time for self is just as key to my well-being as is time for work and family roles.

APPENDIX B  
RECRUITMENT MATERIALS

## Appendix B1 Informed Consent

### Nonwork Role Importance as a Moderator to the Congruence-Satisfaction Relation

Dear Participant:

I am a graduate student under the direction of Dr. Terence Tracey in the Department of Counseling and Counseling Psychology at Arizona State University. I am conducting a research study to evaluate the influence of nonwork activities on vocational satisfaction.

I am inviting your participation, which will involve completing an online survey for an expected duration of 30-45 minutes. You have the right not to answer any question, and to stop the interview at any time.

Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. You must be 18 or older to participate in the study. In return for your participation, you will be compensated 75-cents through your MTurk account.

The process of reflecting on your values can support vocational planning and goal setting. It is anticipated that as a result of participating in this study, you may rethink your role priorities relative to your occupational responsibilities and realign your role commitments to reflect your strongest values. There are no foreseeable risks or discomforts to your participation.

No personal identifying information will be collected during this study. Your responses will remain anonymous. The results of this study may be used in reports, presentations, or publications but your name will not be known, as no personally identifying information will be collected from you.

If you have any questions concerning the research study, please contact the research team at: [Erin.Kube@asu.edu](mailto:Erin.Kube@asu.edu) and/or [Terence.Tracey@asu.edu](mailto:Terence.Tracey@asu.edu). If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788. If you would like to be a part of the study, please click the link below to access the online survey: (insert survey link here).

Sincerely,

Erin Kube, M.A.  
Terence Tracey, Ph.D.

APPENDIX C

IRB APPROVAL DOCUMENTATION





EXEMPTION GRANTED

Terence Tracey  
 SLS - Counseling and Counseling Psychology  
 480/965-6159  
 Terence.Tracey@asu.edu

Dear Terence Tracey:

On 9/3/2014 the ASU IRB reviewed the following protocol:

Type of Review:	Modification
Title:	Nonwork Role Importance as a Moderator to the Congruence-Satisfaction Relation
Investigator:	Terence Tracey
IRB ID:	STUDY00001441
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"> <li>• HRP Informed Consent, Category: Consent Form;</li> <li>• Updated Informed Consent September 2, Category: Consent Form;</li> <li>• Co-Investigator CITI training (Erin Kube), Category: IRB Protocol;</li> <li>• HRP Supplemental Materials , Category: IRB Protocol;</li> <li>• Consultant CITI training (Marilyn Thompson), Category: IRB Protocol;</li> <li>• HRP Social Behavioral Application , Category: IRB Protocol;</li> <li>• Consultant CITI training (Sam Green), Category: IRB Protocol;</li> <li>• HRP Recruitment Annoucement, Category: Recruitment Materials;</li> <li>• Updated Recruitment Announcement September 2, Category: Recruitment Materials;</li> </ul>