

**PLACE IN RETURN BOX** to remove this checkout from your record.  
**TO AVOID FINES** return on or before date due.  
**MAY BE RECALLED** with earlier due date if requested.

| DATE DUE | DATE DUE | DATE DUE |
|----------|----------|----------|
|          |          |          |
|          |          |          |
|          |          |          |
|          |          |          |
|          |          |          |
|          |          |          |
|          |          |          |
|          |          |          |
|          |          |          |
|          |          |          |

**THE INFLUENCE OF PERSONALITY TRAITS  
ON PERSON-ORGANIZATION FIT PERCEPTIONS**

**By**

**Michael A. Gillespie**

**A THESIS**

**Submitted to**

**Michigan State University**

**In partial fulfillment of the requirements for the degree of**

**MASTER OF ARTS**

**Department of Psychology**

**2003**

## ABSTRACT

### THE INFLUENCE OF PERSONALITY TRAITS ON PERSON-ORGANIZATION FIT PERCEPTIONS

By

Michael A. Gillespie

Relationships between measures of person-organization (P-O) fit and outcomes have been found to vary as a function of how P-O fit itself is measured. In order to understand this better, the current study examines the role of personality traits in explaining differences between multiple P-O fit measures on the basis of particular traits. Directly measured, or perceived, P-O fit relies on one's subjective evaluation of fit; whereas indirectly measured P-O fit relies on relatively more objective, independent assessments of the person's and the organization's characteristics. The current study found differences between these two types of assessments that are partially explainable by personality traits. As hypothesized, the personality traits extraversion, conscientiousness, emotional stability, self-deception, and locus of control related positively to measures of direct P-O fit after controlling for indirect measures of P-O fit. A directional hypothesis was not derived for conscientiousness, but it related positively as well. Contrary to hypotheses, agreeableness and openness to experience did not tend to relate to unique variance in direct P-O fit measures (controlling for indirect measures), and cross-situational variability's relationship was negative. The results indicate a need for researchers and practitioners to be aware that systematic differences exist among P-O fit measures, and these differences are partially explainable by personality traits.

## TABLE OF CONTENTS

|  |    |
|--|----|
| LIST OF TABLES.....  | v  |
| LIST OF FIGURES .....  | vi |
| INTRODUCTION .....   | 1  |
| The person-organization fit concept .....                      | 6  |
| The operationalization of person-organization fit.....         | 12 |
| Direct P-O fit.....  | 13 |
| Indirect measures .....  | 14 |
| Other distinctions .....                                       | 17 |
| Studies comparing multiple operationalizations of P-O fit..... | 19 |
| Personality and perceptions of fit .....                       | 25 |
| The Five Factor Model of Personality .....                     | 28 |
| Extraversion .....   | 28 |
| Agreeableness .....  | 29 |
| Conscientiousness.....   | 29 |
| Emotional Stability .....                                      | 30 |
| Openness to experience.....                                    | 30 |
| Specific personality traits.....                               | 31 |
| Locus of control .....   | 31 |
| Self-deception .....   | 32 |
| Impression management .....                                    | 32 |
| Cross-situational variability.....                             | 32 |
| HYPOTHESES .....   | 33 |
| Hypothesis 1.....  | 33 |
| Hypothesis 2.....  | 34 |
| Hypothesis 3.....  | 34 |
| METHOD .....   | 34 |
| Participants and Data Collection.....                          | 34 |
| Measures .....   | 35 |
| Overall direct P-O fit .....                                   | 35 |
| Direct P-O fit (dimension-specific) .....                      | 36 |
| Uni-source indirect P-O fit.....                               | 37 |
| Multi-source indirect P-O fit.....                             | 37 |
| Big Five.....  | 38 |
| Impression management .....                                    | 38 |
| Locus of control .....   | 38 |
| Cross-situational variability.....                             | 39 |
| Order of administration.....                                   | 39 |
| RESULTS .....  | 40 |
| Modeling Indirect Fit .....                                    | 40 |



|   |     |
|---|-----|
| Polynomial regression.....  | 41  |
| Preliminary analyses .....  | 44  |
| Outlier detection.....  | 44  |
| Modeling indirect P-O fit to predict direct P-O fit .....                             | 45  |
| Identifying the conceptual model of congruence for uni-source indirect P-O fit .....  | 46  |
| Identifying the conceptual model of congruence for multi-source indirect P-O fit..... | 47  |
| Confirmatory analyses - supporting the conceptual model.....                          | 48  |
| Results of confirmatory analyses – uni-source indirect measures .....                 | 48  |
| Results of confirmatory analyses – multi-source indirect measures.....                | 50  |
| Restated Hypotheses and Results.....  | 53  |
| Revised hypothesis 1.....   | 53  |
| Revised hypothesis 2.....   | 56  |
| Revised hypothesis 3.....   | 56  |
| DISCUSSION .....  | 60  |
| LIMITATIONS.....  | 64  |
| REFERENCES .....  | 67  |
| APPENDICES .....  | 102 |
| Appendix A.....   | 103 |
| Appendix B .....  | 105 |
| Appendix C .....  | 107 |
| Appendix D.....   | 109 |
| Appendix E .....  | 111 |
| Appendix F.....   | 113 |
| Appendix G.....   | 115 |
| Appendix H.....   | 117 |
| Appendix I .....  | 118 |
| Appendix J .....  | 119 |
| Appendix K.....   | 123 |

## LIST OF TABLES

|  |    |
|--|----|
| Table 1 - Classification of fit operationalizations in described studies .....   | 73 |
| Table 2 - Mean correlations between P-O fit variables and personality traits .....   | 76 |
| Table 3 - Rotated factor matrix for dimension-specific P-O fit .....   | 77 |
| Table 4 - Testing conceptual models for uni-source indirect P-O fit: correlations between difference scores and direct measures of P-O fit .....               | 78 |
| Table 5 - Regressing dimension-specific and general direct P-O fit measures on successive uni-source indirect P-O fit equations .....                          | 80 |
| Table 6 - Regressing direct P-O fit: Beta weights for unconstrained $D^2$ equation .....   | 82 |
| Table 7 - Regressing dimension-specific and general direct P-O fit measures on successive multi-source indirect P-O fit equations .....                        | 86 |
| Table 8 - Testing conceptual models of interest for multi-source indirect P-O fit: correlations between difference scores and direct measures of P-O fit ..... | 88 |
| Table 9 - Regressing X and Y on dimension-specific and general direct P-O fit .....  | 90 |
| Table 10 - Regressing dimension-specific and general direct P-O fit measures on X (Step 1) and X-Y (Step 2) .....  | 91 |
| Table 11 - Correlations between uni-source indirect P-O fit components and direct P-O fit measures .....   | 92 |
| Table 12 - Hierarchical regression analyses predicting direct P-O fit from indirect P-O fit (Step 1) and personality traits (Step 2) .....                     | 95 |

## **LIST OF FIGURES**

**Figure 1 - Illustration of good and bad fit for subjective and objective fit measures ..... 101**

## Introduction

### The influence of personality traits on person-organization fit perceptions

Positive outcomes such as satisfaction, organizational tenure, and stress reduction result for people when their characteristics (e.g., values, goals, personality, interests, abilities, etc.) align with or fit the characteristics of their environment (Dawis & Loftquist, 1984). For example, a person whose *values* correspond with the organization tends to have greater job satisfaction and organizational commitment, less stress and fewer turnover intentions (Kristof, 1996; Meglino & Ravlin, 1998). Further, at least in the domain of *person-organization fit* (P-O fit), which is the focus of this paper, these relationships vary with how fit itself is measured. One method of measuring P-O fit is by using individuals' *subjective* self-ratings of how well their values correspond with those of the organization. *Subjective* is defined here as pertaining to a particular individual, modified or affected by personal views, experience, or background, and arising out of or identified by means of one's perception of one's own states and processes (adapted from Merriam-Webster, 2001). Relationships with criteria tend to be stronger (Verquer, Beehr, & Wagner, 2001) and substantively different (Cable & Judge, 1996, 1997; Dineen, Ash, & Noe, 2002) when they are based on these self-ratings, as opposed to other methods of measuring fit. Another method is to assess the values of the individual and the organization are independently and then calculate or model fit on the basis of the independent assessments (e.g., via difference scores, profile similarity indices, or polynomial regression). This suggests that something different may be assessed when people are simply asked how well they fit with their organization than when their fit is

calculated on the basis of separate measurements of their own characteristics and the characteristics of their organization.

The implication of fit measures differing with respect to how they incorporate subjectivity into the fit assessment is that particular personality traits, or combinations of traits, may thus differentially influence those assessments. These differences are important to investigate because if we know that individuals with a particular personality profile have a tendency to perceive greater (or less) fit than what really exists, researchers can decide whether to (a) use individuals' subjective perceptions of how well they fit (i.e., self-ratings of how well their values fit their organization) if perceptions are truly of primary importance, (b) use a more objective fit assessment to reduce or eliminate systematic influences of personality traits that may or may not be relevant to the P-O fit assessments, or (c) measure the personality variables that influence the P-O fit assessment if these systematic influences are of interest. Figure 1 illustrates discrepancies that can occur in light of these distinctions by providing a 2 (Subjective – good fit or bad fit) X 2 (Objective – good fit or bad fit) table with two conditions where subjective and objective fit are the same and two conditions where they are different.

Of greatest interest are the mismatch cells where subjective and objective are different. This is a plausible situation, as it is clear that the same thing is not being measured when P-O fit is operationalized by asking people how well they fit as when fit is calculated on the basis of independent assessments. In the “Subjective – good fit,” “Objective – bad fit” cell, individuals think they fit in with the organization to a greater extent than they actually do. In contrast, in the “Subjective – bad fit,” “Objective – good fit” cell, individuals do not think they fit with the organization, but by a more objective

assessment, they really do. Decisions or predictions made on the basis of subjective fit assessments may be incorrect if we are interested in actual fit and vice versa. The point of this simple illustration is to make explicit the importance of measuring the construct that is actually of interest, and to point-out that decisions or predictions based on one may be different from decisions or predictions based on the other. The purpose of this thesis is to show that differences exist between subjective and relatively objective measures, and that these differences themselves can be predicted.

The differences in subjectivity in how P-O fit is assessed may allow personality to influence the assessments differentially. The different fit measures result resulting in predictably different conclusions for people depending on how their fit is assessed, based on their personality. This idea builds on existing research regarding the relationship between personality traits and the organizational values one prefers. Each of the Big Five personality traits (extraversion, conscientiousness, agreeableness, neuroticism/emotional stability, and openness to experience/intellect; Goldberg, 1993; McCrae & Costa, 1999) have been found to predict the organizational values that individuals prefer, such that people prefer organizational values consistent with their personality (Judge & Cable, 1997). However, it is not yet understood how the Big Five or other personality traits may affect the actual fit assessments beyond this main effect on people's value preferences. Thus, the current paper examines the role of the Big Five and other potentially relevant personality traits as they relate to assessments of P-O fit that differ on how subjectively they are operationalized. This investigation is *not* to determine whether relatively subjective operationalizations correlate more highly with personality variables than relatively objective operationalizations. Such a comparison *across* operationalizations

would be uninteresting because it is self-evident that subjective measures will bear a stronger relationship with personality than objective measures. Rather, the role of personality traits *within* each operationalization will be investigated.

Current literature in the area of P-O fit and values congruence encourages the investigation of these relationships. In their review of research on values in the workplace, Meglino and Ravlin (1998) suggest that researchers investigate the *processes* involved in values and by implication, values congruence. Further, and more to the point, they call for a “clearer understanding of the causes of perceived value congruence” (p. 384), particularly with respect to how it differs from actual value congruence. Here, “perceived” value congruence can be equated with “subjective” P-O fit, as Meglino and Ravlin are referring to individuals’ perceptions of how congruent their values are with their organization, which parallels the concept I am currently describing as subjective P-O fit. The authors note that perceived congruence, in addition to reflecting actual congruence, may also incorporate motivations to appear congruent or inaccuracies regarding what values exist and which are important, and hence that they are different albeit related constructs. Meglino and Ravlin build somewhat on the work of Cable and Judge (1997) who state,

“It is important to investigate the relationship between objective and subjective fit because although both concepts are meant to assess the same basic construct (“true” person-organization fit), there are many motivational and cognitive biases that may divorce fit perceptions from an objective assessment of fit” (p. 368).

While the authors do not directly investigate the role of motivational, cognitive, or personality-based influences in fit assessments, they did find personality traits to predict

organizational value preferences. Further, they and others (i.e., Cable & Judge, 1996; Dineen, Ash, & Noe, 2002) found operationalizations of subjective fit to mediate those of objective fit for outcomes of organizational attractiveness, organizational commitment, organizational recommendation, and job satisfaction, suggesting that substantive differences exist among otherwise similar fit constructs when they are measured differently.

Dineen et al. (2002) interpret the relationship between subjective and objective P-O fit measures along a “distal/proximal” continuum, whereby objective P-O fit is relatively distal to outcomes such as organizational attraction, while subjective P-O fit is more proximal. The authors support this interpretation with their findings that subjective P-O fit mediated the relationship between objective P-O fit and organizational attraction, as well as the relationship between P-O fit feedback and organizational attraction.

Underscoring these suggestions and findings is the notion that we need a better understanding of how perceptions of fit may differ from the actual degree to which a person fits an organization. Kristof (1996) suggests that an empirical examination of the broad nomological networks surrounding the different measures of P-O fit can inform how multiple operationalizations relate to each other, and that such a pursuit may be useful. Personality traits are an important component of this nomological net. Like values (Meglino & Ravlin, 1998), they are relatively stable. Hence, they represent individual difference characteristics that, if found to influence P-O fit perceptions, can be broadly generalizable across people, time, and environments. Further they are a practically useful way to clarify the nature of perceptions of P-O fit because they (e.g., the Big Five) are already assessed of individuals in some organizational contexts.



Ryan and Kristof-Brown (2003) also ask the question of whether certain individuals misjudge their fit more than others. This is an interesting question because systematic misjudgments of fit would represent variance in P-O fit assessments that has not previously been modeled yet influences our interpretation of the construct. The current study addresses a logical extension of this question by hypothesizing *predictable* misjudgments of fit on the basis of personality traits. Together, the influence of personality on value preferences, the hypothesized influence of personality on fit misjudgments, and evidence for substantive differences between two types of P-O fit assessments encourage a broad and systematic investigation of the role of personality traits on P-O fit operationalizations. This is but one more step towards addressing what Kristof (1996) concluded in her widely-cited review of the literature seven years ago: “As P-O fit becomes a more popular topic with both researchers and managers, increased attention must be paid to its multiple conceptualizations and measurement strategies” (p. 42).

#### *The person-organization fit concept*

P-O fit is subsumed under the broader concept of Person-Environment (P-E) fit, which arises out of the fundamental notion credited to Lewin (1935) that behavior is a joint function of the individual and his or her environment. Motivating research on P-E fit is the notion that there are benefits such as satisfaction, productivity, creativity, and stability when characteristics of individuals correspond with characteristics of their environment (Walsh, Craik, & Price, 1992). Similarly, P-O fit is “the compatibility between people and organizations that occurs when: (a) at least one entity provides what

the other needs, or (b) they share similar fundamental characteristics, or (c) both” (Kristof, 1996, pp. 4-5).

The distinction between “a” and “b” in the definition above was originally made by Muchinsky and Monahan (1987) in reference to person-environment fit – that of complementary fit versus supplementary fit, respectively. The basis of the traditional approach to personnel selection, *complementary fit* exists when an individual offers an organization the KSAO’s (knowledge, skills, abilities, and other characteristics such as personality traits) it needs; and in turn, the organization offers the individual the satisfaction of needs otherwise unfulfilled such as achievement, pay, challenge, social interaction, and variety (Werbel & Gilliland, 1999). From the complementary fit standpoint, good fit is usually desirable between the KSAO’s an individual possesses and organizational demands and rewards placed on those KSAO’s, because by having good fit both the person and the organization get what they need. For example, a good match exists when a person has the skills demanded by a particular organization and the organization provides rewards (e.g., supplies, such as financial resources) for those skills. How this can be most effectively modeled is beyond the scope of this paper, but it is usually the case that the better the fit, the better the person’s and the organization’s needs are satisfied.

*Supplementary fit* exists when an individual “supplements, embellishes, or possesses characteristics which are similar to other individuals [in a particular environment]” (Muchinsky & Monahan, 1987, p. 269). This has been extended to include not just the relationship between an individual and a group of other individuals, but also the relationship between an individual and a collective such as an organization.

Characteristics of supplementary fit that have been addressed in the P-O fit literature are culture, climate, values, goals, and norms on the organization (or other collective) side, which are linked to personality, values, goals, and attitudes on the person side (Kristof, 1996). It is likely that there are greater differences between fit perceptions and reality in the context of supplementary fit as opposed to complementary fit (Ryan & Kristof-Brown, in press). Hence, a focus on supplementary fit will facilitate an analysis of the role of personality traits across different types of fit assessments.

When considering the consequences of fit or misfit, like the relevant literature cited, the current study assumes that good fit is desirable. However, there are circumstances where this is not likely to be a valid assumption. These circumstances will be given a brief treatment in order to show that they do not apply to the focus of the present study. Schneider, Kristof-Brown, Goldstein, and Smith (1997) postulate three considerations that should be made with respect to the benefits and drawbacks of individuals fitting with their organization: “Good fit for whom?,” “Good fit on what?” and “Good fit when?”

In tackling the first of these three questions, “Good fit for whom?,” Schneider et al. (1997) draw on the work of Bourgeois (1985) and Grinyer and Norburn (1975) as evidence that the diversity of perspectives among members of decision-making groups generates a degree of turmoil, conflict, and ambiguity that results in an increased diversity of issues considered in implementing organizational strategies. Hence, in this example, “bad fit” is good. Conversely, this turmoil, conflict, and ambiguity is likely to be a detriment to organizational performance at the level of those individuals whose job it

is to execute the strategies devised by the decision-making groups. That is to say, fit is better at lower levels of the organizational hierarchy.

For “Good fit on what?” the second question, Schneider et al. suggest that good fit is good on global values, or a “global vision.” To illustrate, an example is provided of an emphasis on service quality for a particular organization. Here, it is clearly important that this global value be shared by all organizational members. However, the authors suggest that it is not always desirable to have good fit on values that are not central to the functioning of the organization, particularly for decision-making groups.

The third question “Good fit when?” is again an issue directed towards fit for decision-making groups. The authors’ argue that when an organization is in its initial stages of development, cohesiveness among its founders and decision-makers is an important element for success. However, after the cohesiveness has helped to achieve early goals, a diversity of perspectives is necessary to ensure that the organization is able to adapt as necessary. “The implication here is that, precisely when the organization may be maximally effective, it must begin the changes required for the next stage” (Schneider et al., 1997, p. 403).

In sum, Schneider et al. propose that (a) good fit is good for individuals at lower levels of the organizational hierarchy (i.e., those who are not in decision-making positions), but good fit among individuals who are in decision-making groups can have adverse organizational consequences; (b) good fit should exist on global values but not always on other values; and (c) good fit is a boon to organizations as well as to individuals early in an organization’s life cycle, but can be disadvantageous for the organization once it effectively establishes itself.

The message that is relevant to the current study is that good fit is nearly always associated with positive individual and organizational outcomes for individuals who are not in decision-making groups. For those in such groups however, there are circumstances where good fit may have adverse organizational, and perhaps individual, consequences. Further exceptions may exist. While not intended to be an exhaustive list, these exceptions include fit on individual and organizational characteristics that are undesirable, characteristics that are desirable but low in level or in need of development, and characteristics that do not align in terms of importance (i.e., if certain characteristics are important to the organization but not the individual or vice versa). In light of these concerns, the current study focuses on conditions where good fit is generally considered to be a positive outcome.

Further, emphasis will be placed on supplementary fit on *values* as opposed to fit on other characteristics. A definition of values commonly cited in the domain of organizational behavior is that provided by Locke (1976), who defines a value as “that which one acts to gain and/or keep” (p.1304). Meglino and Ravlin (1998) refine Locke’s definition by distinguishing valuations that are *placed* on desired (or undesired) objects or outcomes from values that are used to *describe* people, groups, or organizations. With this distinction in mind, and in reference to values research in organizational behavior, Meglino and Ravlin define a value as “a person’s internalized belief about how he or she should or ought to behave” (p. 354). Notice that this shifts the emphasis to values used to describe entities (i.e., people, groups, or organizations) instead of desired outcomes. They also note that values as *modes of behavior*, such as honesty and helpfulness, have more in common with how organizations are characterized than do values as *terminal end*

*states* (e.g., a comfortable life, wisdom). Specific examples of values as modes of behavior that are commonly studied in the domain of P-O fit are present in the Organizational Culture Profile (OCP; O'Reilly, Chatman, & Caldwell; 1991), a popular measure developed to assess the rank-ordering of persons' and organizations' values (e.g., flexibility, adaptability, stability) using the Q-sort methodology.

There are three interrelated reasons for selecting values as the focal P-O fit characteristic for this study. First, values are clearly important to both individuals and organizations. Meglino and Ravlin (1998) strongly endorse their continued study in organizational behavior. In fact, in their concluding sentence, the authors advocate that while organizational research has made progress towards a better understanding of values, "more resources should be turned toward a fuller comprehension of [their] relevant processes and functions" (p. 385). They note that values are relatively permanent and have been found to influence organizational phenomena relating to selection, control processes, organizational ethics, and leadership. Further, within the domain of P-O fit, values are the most commonly studied congruence construct (Verquer et al., 2001). Thus, the focus on personality traits and fit on values will have the potential to inform a wide range of organizational phenomena, and with respect to P-O fit studies, the focus on values can inform past research to a greater extent than if another less studied congruence construct were the focus.

Second, values are an important construct in the assessment of congruence between personal and organizational characteristics partly because they can easily be used to characterize both entities, especially when they are operationalized as descriptive characteristics rather than sought outcomes or objects (Meglino & Ravlin, 1998). Similar

descriptive characteristics are commonly used to describe both (e.g., involved in surrounding communities, honest, service-oriented, etc.), yet the outcomes sought by organizations (e.g., profit, market share, etc.) likely have little to do with the outcomes sought by their constituent personnel as individuals (e.g., a raise, autonomy).

Third, as values are amenable to measuring people and organizations, it is easy to measure them commensurably. Commensurate measurement refers to describing both people and organizations with the same content dimensions (Edwards, 2002; Kristof, 1996). It should be noted that some researchers view commensurate measurement as an unnecessary constraint (Patsfall & Feimer, 1985) or even as a self-defeating obsession in researching issues of person-environment fit, “because it asks us to anthropomorphize environments” (p. 146, Schneider, 2001). Exactly how this is self-defeating is not clear. Subjective assessments require an implicit comparison of personal characteristics with organizational characteristics such that the degree to which they match can be quantified. Thus, to conduct an analogous comparison of the role of personality on relatively more objective assessments, a quantification of the degree to which personal and organizational characteristics match is likewise required. With relatively more objective assessments, which require information pertaining to both the individual and the organization, quantification of the degree to which these characteristics match requires that the personal and organizational characteristics be commensurate. Additionally, commensurate measurement is an assumption of the statistical methods that will be required to address the relationships of interest (Edwards, 2002), as will be explained in more detail in the results section.

*The operationalization of person-organization fit*

In order to investigate how personality relates to P-O fit assessments varying on subjectivity, it is first necessary to define clearly the degree of subjectivity incorporated in a particular operationalization of P-O fit. I will do this by focusing on the ways in which subjectivity is incorporated into the fit assessment. Particular attention will be paid to how individuals' perceptions enter into the assessment of congruence between the values of the same individual and a target organization.

Borrowing from existing literature on P-O fit, there are different ways in which P-O fit can be operationalized that have implications for how subjectivity is incorporated into the assessment. These three operationalizations are (1) *direct*, (2) *uni-source indirect*, and (3) *multi-source indirect*, explained in the following paragraphs. A further distinction that is important in understanding systematic influences that may operate through differences in subjectivity is the source of the fit assessment: it can be provided either by the target individual or another source such as an interviewer or recruiter. The *target-source* or *other-source* distinction cuts across the preceding three types of fit operationalizations. In the case of multi-source indirect measures, this source distinction refers to how the individual's values are assessed. A remaining consideration is the source of the organization's values in multi-source indirect measures. However, the source of this values assessment bears no relevance to how individuals' perceptions may influence the fit assessment.

*Direct P-O fit.* The distinction between direct and indirect measures of person-organization fit was made by Kristof (1996) in her narrative review of the P-O fit literature. She noted that direct measures are appropriate "if the construct under investigation is subjective or *perceived* fit" (p. 11; italics in original). Direct measures



*directly* ask the individual how they perceive their fit with the organization. For example, Cable and Judge (1996) asked subjects to respond on a 5-point scale to the question “To what degree do you feel your values ‘match’ or fit this organization and the current employees in this organization?” In this case, the operationalization of fit relies on the individual’s subjective perception of how well he or she fits into the environment vis-à-vis values.

*Indirect measures.* Indirect measures (both uni-source and multi-source) involve separately rating or ranking person and organizational (or group) characteristics where the assessment of fit is then *indirectly* made by mathematically comparing characteristics of both entities. Indirect measures are appropriate when the construct under investigation is “actual” or objective fit (Kristof, 1996). Due to the independent assessments of person and organizational characteristics, the nature of subjectivity incorporated into assessments of P-O fit that rely on indirect measures is different from assessments that rely on direct measures. This is the case even if components of indirect measures are themselves subjective. This is perhaps clarified by assuming that fit assessments can allow for three potential processes by which subjectivity can be incorporated into the fit assessment: through (1) perceptions of the individual’s values, (2) perceptions of the organization’s values, and (3) the correspondence between the individual’s and the organization’s values (more specifically, perceptions of distance or match for direct assessments and mathematical calculations of the distance or match for indirect assessments). Indirect measures remove the subjectivity in the third process. However, the extent to which indirect measures incorporate subjectivity through the remaining processes varies according to the specific type of indirect measurement used. Therefore,

carrying forth the distinctions among operationalizations a bit further, for indirect measures of fit, the organization's characteristics can be provided either by the same source that provides scores for the individual (uni-source) or by another source (multi-source) that can either be perceptual in nature, such as the aggregate of individual scores, or not perceptual in nature, such as organizational characteristics obtained through analyses of organizational records (Kristof, 1996).

The distinction between uni-source and multi-source indirect measures parallels that made by Kristof (1996), who focused instead on whether the measures respectively characterized individual-level or cross-levels (i.e., two levels of analysis, individual and organizational) analyses. However, it could be argued that P-O fit itself is a multi-level construct. Indeed, Chan (1998), in proposing the use of composition models to guide multi-level research, notes "[t]he focal constructs in person-organization fit research are prototypical examples of target constructs that are derived from a combination of constructs at different levels" (p. 243). Taken further, P-O fit can be assessed at multiple points at different levels of a nested hierarchy of organizational variables (e.g., person-supervisor, -manager, -workgroup, -department, -organization). If we are to consider P-O fit to be a multi-level construct, the distinction that Kristof (1996) really made is, for multi-source measures, explicit analytical attention must be paid to the elemental composition of the organization side of the P-O fit construct (e.g., creating a higher-level variable from lower-level data; Chan, 1998).

Use of the labels of "uni-source" and "multi-source" to describe indirect P-O fit measures is appropriate for the purpose of this paper, as they allow for the important "source" distinction without obfuscating source with levels of analysis. Further, from a

data-analytic perspective there are situations where Kristof's (1996) label of cross-levels could be applied where multi-level analyses would be inappropriate. For example, if an individual provides ratings of his or her own characteristics, and another source that does not require aggregation (such as objectively verifiable materials or an expert source such as an interviewer [e.g., Cable & Judge, 1997]) provides ratings of the organization's characteristics, referring to this assessment as multi-source is more appropriate than referring to it as cross-levels. It is no more or less multi-level than if the individual provides scores for his or her own characteristics as well as those for the organization (which would be considered individual-level), as there is no need to consider how to aggregate or summarize higher-level data.

With uni-source indirect measures, the individual for whom we are interested in assessing fit usually provides assessments of both the individual and organizational characteristics. However, it should be noted that there are cases where another source (e.g., a recruiter [Kristof, 2000] or an interviewer [Cable & Judge, 1997]) may provide both sets of ratings for the individual, though these cases are not the focus of the current study. Subjectivity incorporated in uni-source indirect measures is likely to be both greater and more systematic than multi-source measures because the same person provides ratings for both their self and the organization (e.g., the individual may have a tendency to rate the organization as more similar to him or her self). Subjectivity is still incorporated into multi-source indirect measures via perceptions of the individual's values; however the assessment of organizational values is not similarly influenced. Therefore, uni-source indirect measures have greater opportunity to incorporate personality-related influences into the fit assessment than multi-source indirect measures

*Other distinctions.* The source of the values assessment of an individual also has implications for the nature of subjectivity involved in the fit assessment because different processes are enacted depending on whether people are rating themselves or others (e.g., Ross, Amabile, & Steinmetz, 1977). The personality-related influences that operate through the subjectivity involved in the individual's fit assessment for his or her own values (as compared to when others provide this information) is of primary interest here.

Another source of variability in P-O fit operationalizations is the time between the assessment of individual and organizational characteristics in indirect measures. Commonly, the person's and the organization's characteristics are assessed at the same point in time – especially when the same individual is making both assessments. There are exceptions, however, where the two assessments are separated by a period of time to mitigate common method variance concerns (Cable & Judge, 1996).

Meglino and Ravlin (1998) mention that measures of P-O fit that are similar in terms of measurement, source, time, and subjectivity can still differ on the level of specificity regarding the characteristics (e.g., values) on which fit is being assessed. For example, direct measures typically make a *general* assessment of how well an individual's values correspond with those of their organization, usually asking no more than a few questions about how well someone thinks he or she fits (e.g., Adkins, Russel, & Werbel, 1994; Cable & Judge, 1996, 1997; Cable & Parsons, 2001; Judge & Cable, 1997; Saks & Ashforth, 1997). However, direct measures are not inherently constrained to being so general. *Specific* values can be directly measured as well <E.G., ?>, though I am not aware of any such examples in the P-O fit literature. Indirect measures typically do employ assessments of specific values, such as those assessed using the

Organizational Culture Profile (e.g., Cable & Judge, 1996; Cable & Judge, 1997; Cable & Parsons, 2001; Judge & Cable, 1997; O'Reilly, Chatman, & Caldwell, 1991) or the Comparative Emphasis Scale (Ravlin & Meglino, 1987). Meglino and Ravlin (1998) express concern about comparing the results and processes of values operationalized at different levels of specificity, that this can create problems for our understanding of processes related to values. They note that inappropriate operationalizations can cause the absence of significant findings to be incorrectly attributed to a lack of real relationships. Hence, the specificity of values measured is a relevant consideration in the current study because of the expressed interest in examining the results and processes involved with direct and indirect measures of P-O fit on values. It is my contention that the more general the level of specificity in values assessment (e.g., Cable & Judge's (1996) general P-O fit measure or Rokeach's [1973] measure of general social values), the more room there is for the influence of personality related variables on the values assessment. This is because the lack of specificity allows for greater leeway in interpreting what characteristics to consider and how to weight those characteristics. This freedom to interpret characteristics and weights allows for greater expression of individual differences such as personality traits. In contrast, when values are highly specific (for example, Wollack, Goodale, Wijting, & Smith's [1971] survey of specific work values, Meglino & Ravlin [1998]), there is less room for such individual differences in interpretation.

This issue of specificity can apply to individuals' values, organizational values, and/or direct assessments of the fit between personal and organizational values. One noteworthy distinction here is that direct measures can effectively be unidimensional with

respect to values, as in the case where individuals are simply asked how well their values match those of their organization (Cable & Judge, 1996). In contrast, indirect measures cannot be unidimensional unless they target only one value (which would probably be pointless), as they require an assessment of how well *multiple* characteristics of both the individual and the organization align.

#### *Studies comparing multiple operationalizations of P-O fit*

In order to understand better how different operationalizations of P-O fit relate to each other and to personality traits, seven studies were located that included multiple operationalizations of P-O fit. While several other studies include multiple operationalizations of fit (e.g., person-job fit, person-group fit, and person-organization fit), these were the only seven studies that included multiple P-O fit operationalizations or values congruence measures that varied on the nature of the subjectivity incorporated in the fit assessment. Six of these are primary studies, and five explicitly tested the relationships among the operationalizations. Table 1 classifies the measures used in the primary studies according to the types of operationalizations I have identified as important for this study. Because I discuss the literature here in terms of how the fit measures relate to the P-O fit operationalization framework advanced above, the terminology used by the researchers in the original sources is included in Table 1.

Meglino, Ravlin, and Adkins (1989) conducted the first such study, on the topic of work values congruence. Meglino et al. assessed the relationship between multiple indirect measures of P-O fit and several important individual outcomes of employees in a manufacturing plant. All values congruence measures incorporated an assessment of employees' own values as measured by the Comparative Emphasis Scale. In order to

obtain a congruence assessment, this was correlated with CES scores pertaining to (a) employees' perception of the values of management, (b) supervisors' reports of their own values, (c) supervisors' reports of their managers' values (d) an aggregate of managers' reports of their own values, and (e) an aggregate of managers' perceptions of the values of management.

While intercorrelations among fit operationalizations are not provided, the authors found different patterns of results (some negative) across the five operationalizations of values congruence for the criteria of satisfaction, organizational commitment, attendance, performance evaluation, and efficiency. In general, correlations observed with job satisfaction, organizational commitment, and attendance demonstrated stronger relationships ( $r$ 's  $\approx .20$  in absolute magnitude for significant [ $p < .05$ ] correlations) than those observed with performance evaluation ratings ( $r$ 's  $\approx .15$  in absolute magnitude for significant [ $p < .05$ ] correlations) across types of fit operationalizations. Only employee-manager value congruence correlated significantly with the remaining criterion, efficiency ( $r = .34, p < .01$ ). The different patterns among fit operationalizations were subtler, but suggest that organizational value assessments made by a reference proximal to the employee (e.g. supervisor's self-reported values) result in stronger relationships with criteria ( $r$ 's  $\approx .17$  for supervisor's self-reported values for significant [ $p < .05$ ] correlations) than relatively more distal assessments of organizational values (e.g., for managers' perceptions of the values of management,  $r$ 's  $\approx -.13$  for significant [ $p < .05$ ] correlations, with substantially fewer significant values).

Cable and Judge (1996) investigated the role of a uni-source indirect measure as one determinant of a direct P-O fit measure, and the role of the direct measure in job

choice decisions and work attitudes (target individuals provided all these data).

Consistent with their hypothesis, the indirect measure significantly predicted the direct measure of P-O fit ( $\beta = .26; p < .01$ ). Inconsistent with another hypothesis, they did not find any demographic characteristics to predict the direct P-O fit measure significantly.

As mentioned briefly earlier, the same authors (Judge & Cable, 1997) also assessed the roles of the Big Five personality traits on organizational culture preferences, and of a direct and a multi-source indirect measure (both provided by the target individual) of P-O fit on organizational attraction. They found that the Big Five related to the organizational values one prefers.

Specifically, self-report measures of extraversion related positively to preferences for aggressive and team-oriented, and negatively to supportive organizations (with correlations of .22, .36, and -.20, respectively [ $p$ 's  $< .01$ ]). Agreeableness related positively to preferences for supportive, rewards-oriented and team-oriented, negatively to preferences for aggressive, outcome-oriented, and decisive organizations (with correlations of .24, .23, .24, -.49, -.23, and -.40 respectively [ $p$ 's  $< .01$ ]). Conscientiousness related positively to preferences for detail-oriented and outcome-oriented, and negatively to preferences for innovative and team-oriented organizations (with correlations of .35, .30, -.38, and -.18, respectively [ $p$ 's  $< .05$ ]). Emotional stability related positively to preferences for innovative and decisive organizations (with correlations of .17 and .16, respectively [ $p < .05$ ]). Finally, openness related positively to preferences for innovative and detail-oriented, and negatively to aggressive organizations (with correlations of .26, .21, and -.22, respectively [ $p$ 's  $< .01$ ]).



In addition to finding that the Big Five predicted value preferences, the authors found both measures of P-O fit to predict organization attraction significantly when entered stepwise into a regression equation. Control variables entered at the first step contributed an  $R^2$  of .33; the second step, the indirect measure, contributed a  $\Delta R^2$  of .05 ( $\beta = .22, p < .01$ ); and the third step, the direct measure, an additional  $\Delta R^2$  of .09 ( $\beta = .34, p < .01$ ). The direct measure mediated the relationship between the indirect measure and organization attraction, as supported by the significant correlation between the two variables, and the significant hierarchical regression  $\beta$ 's but nonsignificant  $\beta$  for the indirect measure when entered simultaneously with the direct measure and control variables. The zero-order correlation between their two fit measures was .37. In summary, while the authors did not report any results pertaining to how personality traits influence P-O fit assessments, they do successfully relate personality to value preferences and they show that direct and indirect measures function differently, at least for the criterion of organization attraction.

Cable and Judge (1997), using structural equation analyses, report acceptable overall fit for a mediational model where the effects of a multi-source indirect measure (where the individual provided a report of their own values) of applicant-organization values congruence on an organization's decision to hire is mediated by (a) a uni-source indirect measure where the source is an interviewer, (b) a direct measure where the source is again an interviewer, and (c) the interviewer's recommendation to hire. The same study also provides perhaps the most conservative estimate (obtained  $r = .16, ns$ ) of the relationship between a direct and a multi-source indirect measure of P-O fit, where an interviewer provided the direct measure and the individual provided their values for the

indirect measure. A stronger relationship between a direct and uni-source indirect measure of P-O fit is also provided in the same article ( $r = .64, p < .05$ ), where, uniquely, the same “other-source” (i.e., an interviewer) provided both the direct fit measure and the individual and organizational values assessments for the indirect measure.

Cable and Parsons (2001) investigated the role of socialization tactics on P-O fit, measuring individuals’ fit and individual and organizational values at different points in time. Time 1 was before the student participants started interviewing for jobs. Time 2 was one year later, six months after graduation (and presumably approximately 6 months on the job), and time 3 was one year after time 2. At time 1, participants provided a report of their own values using the OCP. At time 2, they responded to a direct P-O fit measure, and provided their ratings of organizational values using the OCP. At time 3, participants again provided a report of their own values using the OCP. The authors reported a correlation of .32 between directly measured P-O fit (time 2) and a uni-source indirect measure of congruence between time 1 individual values and the same individuals’ time 2 measure of organizational values. A similar correlation of .37 was reported between the same measures using the individuals’ values from time 3 instead of time 1 (i.e., their values after socialization).

Dineen et al. (2002) investigated the effects of P-O fit feedback (i.e., feedback regarding the potential P-O fit of an individual) on participants’ attraction towards organizations. Part of their hypotheses involved a replication of the mediating role of a direct measure of P-O fit on the relationship between a multi-source indirect measure of fit and organizational attraction. Consistent with their hypotheses and previous research, they found the direct measure to mediate the indirect measure fully. Additionally, the

direct measure mediated the effects of P-O fit feedback on organizational attraction. The authors report a zero-order correlation between their direct and indirect measures of P-O fit of .23.

In a recent meta-analytic review of the literature, Verquer et al. (2001) indicated that findings based on studies focused on differentiating operationalizations of fit have been inconclusive and sometimes contradictory, and the relations between P-O fit and outcomes have been mixed. In an effort to understand better the relationships between different operationalizations of P-O fit and commonly researched outcomes, the authors included type of fit measure as a moderator in their meta-analysis of the effects of P-O fit on job satisfaction, organizational commitment, and turnover intentions. They found that for the affective criteria of job satisfaction and intent to turnover, measures considered by the researchers to be subjective (i.e., direct) had higher correlations than those considered perceived (i.e., uni-source indirect) or objective (i.e., multi-source indirect). Thus, as expected, direct measures had higher correlations (by approximately .30) than the indirect measures for these two criteria. Surprisingly, for the criterion of organizational commitment, all measures performed somewhat comparably ( $r = .31, .37$ , and  $.21$  for direct, individual-level indirect, and cross-levels indirect measures, respectively).

In sum, there is a modest, but certainly not a strong, relationship among different operationalizations of P-O fit. More substantively, it appears that the effects of P-O fit captured by indirect fit measures work through the construct tapped by direct measures of P-O fit, and as illustrated by Meglino, Ravlin and Adkins (1989), relationships with criteria, particularly affective criteria, tend to be stronger the more proximal the source of data for the organization is to the person.

These findings underscore the importance of gaining a better understanding of the multiple conceptualizations and operationalizations of P-O fit. While recent research has identified special cases where the operationalizations of fit has predictable effects on other measures of fit and specified outcomes, this is not sufficient to understand how the operationalization of what seems to generally be the same underlying construct can have such different effects via different methods, measures, and congruence assessments (e.g., Verquer et al., 2001). Therefore, this study provides a controlled analysis of the processes involved in these different operationalizations.

#### *Personality and perceptions of fit*

No published research to date of which I am aware has investigated whether personality characteristics have a systematic effect on assessments of P-O fit aside from a main effect on the organizational values one prefers. While the purpose of assessing fit directly is to obtain individuals' comparison between individual and environmental characteristics, the comparison between the two is not usually made explicit; rather people are simply asked directly how well they think they fit. It is likely that personality traits will relate to fit judgments, because to some extent personality influences the way in which individuals view themselves, the environment, and their relationship with the environment. Direct fit measures by definition rely solely on individuals' perceptions of how well they fit a particular environment. In contrast, while there is a relationship between an individual's personality and other characteristics such as values, the relationship between personality and P-O fit should be different when P-O fit is operationalized as an indirect measure. In this case, personality should influence individuals' values that comprise the fit assessment but not the fit assessment itself

because one's personality cannot affect how fit is calculated (though this is a subjective decision in itself). Hence the relationship between personality and P-O fit assessed indirectly should be substantively different, and of less magnitude, than when P-O fit is assessed directly.

While the individuals' personalities are likely to play a role in their actual and reported values, personality can only affect judgments of the organization's values when individuals themselves makes those judgments (as in a uni-source indirect fit assessment, where individuals may project their values onto the organization). Still, the individual does not make any explicit evaluation of congruence even though they may do this implicitly in the reporting of their own values. In the case of a multi-source indirect measure of fit, the individual's perception plays no role in the assessment of the organization's values or the assessment of congruence, as the individual only reports his or her own values.

Thus, individuals' perceptions play a decreasing role from direct, to uni-source indirect, to multi-source indirect measures. Specifically, personality should influence direct assessments through (a) the extent of individuals' awareness of their own values, (b) their perception of the organization's values, and of most importance, (c) their direct perception of the relationship between the two. Personality can only influence indirect measures only through its relationship with (a) the person's values and (b) the person's perception of the organization's values. In support of this, existing research has shown that personality traits do relate to values (e.g., Roccas, Sagiv, Schwartz, & Knafo, 2002). Further, to the extent that individuals have any self-serving biases that encourage them to perceive the organization as similar to themselves, uni-source indirect measures allow for

the operation of this bias. In the case of a multi-source indirect measurement however, personality can only influence the person's values, as the focal person is not providing any ratings of the organization. Not discussed here are the potential implications personality has for measurement strategies where another person, such as an interviewer or recruiter, provides either the direct fit assessment or the assessment of the focal person's values. In these cases, both the rater's and ratee's personality may play a role.

Personality traits that theoretically relate to how people perceive their fit with their environment will be investigated for their relationships with multiple P-O fit measures. As no current trait theories bear particular relevance to how people may misjudge fit with their environment, the decisions regarding which personality variables to use are somewhat exploratory. The role of the Big Five (McCrae & Costa, 1999) personality traits will be assessed, as these five factors have been found to capture a large amount of variance among person-descriptive statements parsimoniously, and there is a reasonable amount of discriminant validity among the traits. Further, they are frequently used as marker variables to inform the substantive nature of other constructs and measures. Finally, further investigation of the relationship between Big Five traits and P-O fit follows on the research conducted by Judge and Cable (1997), who investigated the role of the Big Five on value preferences but not perceptions of P-O fit.

The Big Five are included here, in part, as a reasonable "catch-all." However, some more targeted personality traits may be equally important to include. These are locus of control, self-deception, impression management, achievement motivation, and cross-situational variability. The following sections describe each of these personality traits and their relevance to P-O fit assessments.

### *The Five Factor Model of Personality*

The Five Factor Model of personality (Goldberg, 1993), or the Big Five personality traits (extraversion/surgency, conscientiousness, agreeableness, emotional stability/neuroticism, and openness to experience/intellect; McCrae & Costa, 1999) represent the most commonly, though not universally, accepted personality framework in the current literature (Wiggins & Trapnell, 1997). The five-trait factor structure has been found to be relatively stable, generalizable, and replicable across cultures (Goldberg, 1999; McCrae & Costa, 1999), and consistent across theoretical frameworks, measures, cultures, and rating sources (Hogan & Ones, 1997).

*Extraversion.* Watson and Clark (1997) note that, while some researchers disagree on certain characteristics of extraversion, nearly all have in common descriptions such as sociable, talkative, cheerful, optimistic, and appreciative of change and excitement. While some researchers such as Tellegen (1985) include elements of ambition and achievement orientation, others (e.g., Costa & McCrae, 1985) consider these to be aspects of conscientiousness. The current research will focus on the more universally recognized components of extraversion. This excludes the ambition and achievement-orientation components, which could fall under conscientiousness; as well as, contrary to Watson and Clark, appreciation for change and excitement, which could just as easily fall under the openness to experience factor. The characteristics that are therefore central to extraversion as defined here may be best conceptualized as sociable and outgoing. When considering these attributes in light of how an individual perceives their fit with his or her environment, they seem to imply that people high on extraversion should have a tendency to perceive themselves as fitting-in better than what would be

objectively indicated because they have a general tendency to want to be an active part of their social environment. Thus, individuals high on extraversion should be more likely to report a greater fit than what exists as opposed individuals low on extraversion.

*Agreeableness.* Descriptions offered by various researchers for the basic dimension of agreeableness all tend to have much in common (Graziano & Eisenberg, 1997), in contrast to more controversial dimensions such as extraversion and conscientiousness. Such descriptions are generally along the lines of likable, conforming, kind, considerate, helpful, and cooperative. This indicates a general tendency to like and to try to be liked. Thus, in relation to how individuals perceive themselves as fitting with their environment, those high in agreeableness should have a tendency to perceive their fit as greater than those low in agreeableness, after accounting for the actual degree of value congruence.

*Conscientiousness.* Measures of conscientiousness tend to assess characteristics such as persistence, scrupulousness, reliability, achievement-orientation, ambition, self-efficacy, orderliness, self-discipline, cautiousness, and prudence (Costa & McCrae, 1985; Goldberg, 1999; Hogan & Hogan, 1992). To the extent that conscientious individuals are high on these characteristics, they may tend to be more critical of the extent to which they perceive themselves as fitting an organization and they may be more sensitive to whether the organization is characterized by values important in satisfying their achievement-strivings. Thus, it is possible that in a given organization, individuals high on conscientiousness would perceive less fit than individuals low on conscientiousness, as they may simply be more realistic about the degree of misfit and pickier about finding an organization that fits them. However, applying this logic to the current study does not



result in a prediction for a negative P-O fit – conscientiousness relationship, as individuals would have to be randomly assigned to organizations in order to observe such an effect. Further, as conscientiousness has been found to relate consistently with job performance (Barrick & Mount, 1991), highly conscientious individuals may in fact perceive greater fit because they perform better once they have made their choice of organization. Therefore, while individuals high on conscientiousness may evidence lower amounts of perceived fit with a given organization than individuals low on conscientiousness, it may be necessary to control for job performance and the extent to which highly conscientious individuals select themselves into a better-fitting environment in the first place in order to detect and interpret the effect properly. In the absence of being able to control for self-selection and performance, hypotheses regarding role of conscientiousness in perceptions P-O fit must be regarded as exploratory.

*Emotional Stability.* Individuals low on emotional stability, have been described as rigid, unadaptable, timid, insecure, submissive, indecisive, and lethargic (Judge & Cable, 1997). This indicates an overall tendency to experience negative affect and maladaptive emotions, along with a tendency to not adapt well to their environment. Thus, individuals *high* on emotional stability should have a tendency to perceive themselves as having greater fit with their environment than their low emotional stability (or high neuroticism) counterparts.

*Openness to experience* generally refers to cultural and intellectual openness as well as divergent thinking. Costa and McCrae (1985) assess this dimension through facets of openness to fantasy, aesthetics, feelings, actions, ideas, and values. Goldberg (1999) offers a slightly different perspective from the standpoint of his parallel construct

of *intellect*, focusing on imagination, artistic interests, emotionality, adventurousness, intellect, and liberalism. Taken altogether, individuals high on openness should be more open to their environment and less judgmental if it is characterized by values different than their own. More specifically, they should tend to perceive themselves as being a match with the environment to a greater extent than individuals low on this dimension and they should be less likely to perceive misfit on the basis of value incongruence. This should result in a net effect of increased perceptions of fit for individuals high on openness to experience.

#### *Specific personality traits*

While the Big Five personality traits represent an attempt to capture meaningful personality variance that may relate to perceptions of fit, other more narrow-bandwidth traits may also be informative. Of particular interest are traits that relate to how individuals perceive and respond to their environment.

*Locus of control* (LOC) is one such trait. LOC refers to one's generalized expectancies for internal versus external control of reinforcement (Rotter, 1996). Individuals can be characterized along a continuum of internal LOC to external LOC, where internals attribute reinforcers primarily to internal causes (e.g., becoming a success is a matter of hard work; luck has little or nothing to do with it), and externals attribute reinforcers primarily to external causes (e.g., getting a good job depends mainly on being in the right place at the right time). LOC is relevant to P-O fit perceptions because highly internal individuals should perceive themselves as more of an active agent in creating an environment that suits them; whereas highly external individuals may perceive the environment as relatively independent of them and their influence. Hence, internals

should perceive greater fit than what exists, whereas externals should perceive relatively less fit with their environment.

*Self-deception* is another relevant trait with respect to how individuals perceive their fit with the environment. Self-deception refers to favorably biased but honestly held self-descriptions (Paulhus & Reid, 1991). Thus, individuals who are highly self-deceiving likely view themselves as relating more positively to their environment than their low self-deceiving counterparts – the high self-deceivers probably think that they fit better than they actually do.

*Impression management* refers to giving favorable self-descriptions to others (Paulhus & Reid, 1991). To distinguish the two constructs, self-deception is an honestly held, “healthy,” bias towards not acknowledging feelings that everyone is assumed to experience, but that some people repudiate (Paulhus & Reid, 1991). By contrast, impression management is an intentional distortion, directed at a particular audience for purposes of personal propaganda. Hence, for different reasons and motivations, impression management should demonstrate a similar pattern to that of self-deception with respect to individuals’ reports of how well they perceive their fit with their environment.

*Cross-situational variability* is a related, yet distinct construct – the extent to which one behaves differently across different situations. Lennox and Wolfe (1984) describe cross-situational variability as an empirically distinct subscale of Snyder’s (1974) self-monitoring scale. Self-monitoring, similar to impression management, refers to the extent to which people regulate their self-presentation according to situational cues (Snyder, 1974). Empirically, the cross-situational variability measure tends to be distinct

from self-monitoring, negatively associated with measures of social anxiety, and positively associated with social interaction effectiveness (Lennox & Wolfe, 1984). Individuals high on cross-situational variability should report relatively greater fit with their environment, for one of two possible reasons. For one, the actual degree of fit may be less relevant to their perceptions due to their own variability in behavior. Second, it may be that these individuals may be more of a “chameleon”, changing to fit the situation.

Thus, the relationship between personality and P-O fit should differ across operationalizations of P-O fit, such that the assessment of congruence is affected by personality’s influence on fit perceptions, individual values, and to a lesser extent, individual’s perceptions of organizational values. Further, general direct P-O fit measures should allow greater potential for the influence of intervening variables such personality traits than more specific direct P-O fit measures. Hence, specific direct P-O fit measures should bear patterns of relationships with other variables that are more similar to indirect P-O fit measures than their general direct counterparts.

### Hypotheses

The general hypotheses presented in the preceding text will be addressed by testing the following relationships:

*Hypothesis 1:* Four of the Big Five (extraversion, agreeableness, emotional stability, and openness) and the four specific personality traits (self-deception, impression management, locus of control, and cross-situational variability) will relate positively to (H1A) general direct P-O fit, (H1B) specific direct measures of P-O fit, (H1C) individuals’ self-reported values, (H1D) individuals’ reports of organizational values,

(H1E) uni-source indirect measures of P-O fit, and (H1F) multi-source indirect measures of P-O fit. The role of conscientiousness, the remaining Big Five trait, will be explored.

*Hypothesis 2:* The personality traits will relate bear the strongest relationships with the following P-O fit operationalizations, listed order of strongest to weakest: General direct (H2A), specific direct (H2B), uni-source indirect (H2C), and multi-source indirect (H2D) measures of P-O fit.

*Hypothesis 3:* Direct P-O fit can be predicted largely from the combination of indirect P-O fit measures and relevant personality traits. Specifically,

- A. Indirect P-O fit measures will relate to direct P-O fit measures.
- B. Personality variables will relate to direct P-O fit measures (re-iteration of H1A and H1B).
- C. Personality variables will offer incremental validity in predicting direct P-O fit measures, over indirect measures by themselves.
- D. Related, the correlation between direct P-O fit and personality after partialling out the indirect measures will be investigated. The significance and direction of this partial correlation will support the hypothesized relationships between personality variables and fit perceptions previously described in the text.

## Method

### *Participants and Data Collection*

Six hundred and fifty-four first-year undergraduate students at Michigan State University volunteered to participate in a larger project in which the current study was embedded. Participants were recruited through their classes, housing units, and through the student newspaper, and they received \$40 for their participation. Of these, 10 subjects

were dropped from the study due to invalid responses to items developed to detect careless responding. Another 31 cases had invalid responses for their major and/or out-of-bounds responses to the fit questions. The resulting sample size was 613. Mean age was 18.5 years ( $SD = .69$ ). Seventy-two percent were female. Seventy-eight percent were Caucasian; 9.5 % African American; 1.9%, Mexican American; 5.3 % Asian American; and 4.5%, other.

All measures were included within a larger test battery that was administered as a series of four booklets in small group administrations over the course of one semester (Mean  $N$  per group = 15.19,  $SD = 8.12$ ). Examinees were provided with test booklets and machine-scannable answer sheets. Trained proctors adhered to a script and read test instructions verbatim, similar to standardized test procedures. Sessions were scheduled to last four hours, allowing the participants sufficient time to complete the test. Ten-minute breaks were held after the first and second booklets. Examinees were given 75 minutes to complete 215 questions in Booklet 1, which contained primarily biographical data questions, and 75 minutes to complete 140 questions in Booklet 2, which contained primarily situational judgment inventory items. Booklets 3 (150 questions) and 4 (198 questions) were assigned 30 minutes each, and contained a variety of measures, including most of the measures relevant to this study. The task administration was lengthy, but participants were compensated monetarily, they took breaks, and seemed to take the task seriously.

### *Measures*

*Overall direct P-O fit* is reflected in an overall assessment of how well individuals think they fit in with the university and other students at the university. In this vein, three

questions, adapted from Cable and Judge (1996), were asked to assess this overall direct measurement of P-O fit. The rating scale is a 7-point scale with responses ranging from “very little” to “a tremendous amount.” These three questions, along with their descriptive statistics are,

1. Generally, how much do your values, goals, and personality seem to ‘match’ or fit with MSU and the other students at MSU? ( $M = 4.67$ ,  $SD = 1.05$ )
2. Generally, how much do your values and personality prevent you from ‘fitting’ with MSU because they are different from those of most other students? (reverse-coded;  $M = 5.12$ ,  $SD = 1.38$ )
3. Generally, how much do you think that the values and ‘personality’ of this college reflect your own? ( $M = 4.47$ ,  $SD = 1.24$ )

Coefficient alpha for this 3-item measure is .65.

Direct P-O fit (dimension-specific) was measured by asking participants how well they fit with respect to 12 dimensions of college success (see Appendix A) identified in a related study (Oswald et al., in press). These 12 dimensions – intellectual, interpersonal, and intrapersonal in nature – were originally obtained by searching college and university mission statements, an interview with a residence life administrator, and reviewing published literature and unpublished university reports. They were developed to be a parsimonious yet comprehensive description of the domain of college student performance beyond grade point average. Specifically, for each of the 12 dimensions, participants were instructed: “Use the scale below to indicate how much your characteristics in each of the following dimensions ‘match’ or fit with MSU and other

MSU students.” As with all of the fit measures here, the rating scale is a 7-point scale with responses ranging from “very little” to “a tremendous amount” (see Appendix B).

*Uni-source indirect P-O fit* is operationalized by mathematically combining (described fully in the results section) two components: individuals’ values and their ratings of the values of other college students at their university. Like the direct P-O fit measure described above, values correspond exactly with the 12 criterion dimensions. In providing their own values, participants were asked “Use the scale below to indicate how much you value each of the following dimensions” (see Appendix C). In providing the organization’s values, participants were asked “Use the scale below to indicate how much you think other students at MSU value each of the following dimensions” (see Appendix D).

*Multi-source indirect P-O fit* is also operationalized by mathematically combining two components: participants’ values (Appendix C) and the mean level of others’ values as provided by the other participants in their college. Aggregating by college was most appropriate for the current study because it produced a sufficient number of groups (vs. aggregating to the university as a whole [i.e., aggregating to one group] which only adds a constant to individuals’ difference scores or regression equations), all of which had a substantial number of participants per group (vs. aggregating by major which would produce some groups with N’s of less than five). In aggregating by college, participants were classified into their respective colleges according to their majors. For some listed majors ( $N = 39$ ), it could not be determined which college the respondent belonged to, for example someone with a Microbiology major could belong to any one of four colleges (i.e., human medicine, natural science, osteopathic medicine, veterinary medicine). To



avoid a spurious association between individuals' values and those of their college, a unique college value was calculated for each case by removing the focal case when calculating the mean of individuals' values in that college.

*Big Five.* The Big Five personality traits were measured using a 50-item personality measure from the International Personality Item Pool (IPIP; Goldberg, 1999). This measure is psychometrically comparable to other commonly used measures of the FFM of personality, such as the NEO-PI (Costa & McCrae, 1992). Goldberg (1999) reports the mean coefficient alpha for each of the five scales (10-items each) to be .84, indicating an acceptable degree of internal consistency. Obtained reliabilities were consistent with this and acceptable (see Table 2 for descriptive statistics and reliabilities and Appendix F for the items grouped by construct).

*Self-deception and impression management* were measured using the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1988). Each scale contained 19 items, and the obtained coefficient alpha reliabilities were .62 for self-deception and .80 for impression management. (See Table 2 for descriptive statistics and Appendix G for the items).

*Locus of control.* To measure locus of control, items were taken from Valecha's (1972) locus of control scale, which was from Rotter's (1966) scale. The original scale comprised 11 items, each on a 5-point scale (see Appendix H). Coefficient alpha reliability of the original 11-item scale was .59 (see Table 2 for descriptive statistics). Two items did not perform well empirically as part of the locus of control scale, demonstrating corrected item-total correlations of -.18 and .06, respectively. Further investigation of the poorly performing items (numbered 4 and 11 in the appendix)

suggested that context important to the functioning of the item had been removed when Valecha adapted Rotter's original scale, which was forced-choice. Hence, these two items were dropped from the scale. Coefficient alpha reliability for the revised 9-item scale was .67.

*Cross-situational variability.* The cross-situational variability scale was obtained from Lennox and Wolfe (1984). The authors developed this scale in reaction to construct contamination issues in a previous measure that included some of the same items in a measure of self-monitoring (Snyder, 1974). Empirically, the cross-situational variability measure tends to be distinct from self-monitoring and associated with measures of social anxiety. It is also positively associated with social interaction effectiveness (Lennox & Wolfe, 1984). Coefficient alpha for this 7-item scale is reported to be .82; the current sample resulted in a similar alpha of .81 (see Table 2 for descriptive statistics). The items are shown in Appendix I.

*Order of administration.* The preceding measures were administered at one point in time as part of a larger study including four booklets of measures. The first two booklets contained situational judgment and biographical data inventories. The measures used in the current study were contained in third and fourth booklets. These contained various short self-report personality and interest inventories and took approximately 1 hour total to complete. The relevant measures were administered in the following order: self-deception, impression management, absenteeism, direct P-O fit, participants' values, ratings of the values of other college students, level of each characteristic, overall direct P-O fit, cross-situational variability, demographics, Big Five personality traits, and locus of control.

## Results

### *Modeling Indirect Fit*

Recall that the primary goal of interest is to determine the extent to which personality traits are related to direct measures of P-O fit, controlling for indirect measures of P-O fit. To do this, it is necessary that the indirect measures are modeled properly in the analyses. For example, some researchers have operationalized P-O fit based on indirect measures by using profile similarity indices such as correlations or difference scores. But Edwards (1993, 1994, 2001, 2002) has levied several criticisms against such summary indices, stating that they (a) are less reliable than their component measures, (b), combine measures from conceptually distinct constructs into a single score, (c) impose untested constraints, and (d) reduce an inherently three-dimensional relationship between predictors and criteria to two dimensions.

These criticisms all amount to the implications of unjustified consolidation of two separate component scores into one index. Edwards maintains that such operationalizations can lead to erroneous conclusions, including underestimates or confounded estimates of the criterion-related validity of the components that a difference score comprises (Edwards, 2001). For instance the mathematical constraints imposed by a difference score do not allow all of the criterion-related validity of the components to be captured. For example, the algebraic difference score,  $X-Y$ , is represented by the equation

$$Z = b_0 + b_1(X-Y) + e,$$

where  $X$  and  $Y$  are the person and organization component scores, respectively.

Distributing  $b_1$  results in the equation

$$Z = b_0 + b_1X - b_1Y + e.$$

Notice that the regression weights on  $X$  and  $Y$  are constrained to be equal in magnitude and opposite in sign. Now consider the unconstrained equation, which allows for independent estimates of  $X$  and  $Y$ :

$$Z = b_0 + b_1X + b_2Y + e.$$

This unconstrained equation allows for independently estimating component weights, potentially maximizing validity and allowing for attributions to be made regarding the independent effects of  $X$  and  $Y$ . The independent estimation of effects for the separate components eliminates the concern of confounded estimates of criterion-related validity due to the erroneous attribution to a congruence score instead of a single component.

*Polynomial regression* (or perhaps simply multiple regression) can eliminate these potential confounds by independently estimating the components and their higher-order terms. Further, the approach can test the assumption that a difference score is in fact the most appropriate way to operationalize its variables or components. It also tests the competing possibilities that only one component drives the relationship, that an interaction term may be required, or that higher-order (e.g., squared, cubed, or interaction) terms capture criterion variance.

Two sets of preliminary analyses were required prior to hypothesis testing. First it was necessary to screen the data for outliers. This is an important step in any data analysis, but even more when investigating the utility of higher-order terms, as outliers can heavily influence the fit of higher-order terms (Tabachnick & Fidell, 2001). Second, in order to address any hypothesis involving an indirect measure of P-O fit, a series of

analyses was required in order to identify how to model and analyze the P-O fit construct properly (Edwards, 2002).

At this juncture a decision had to be made with respect to how to treat the 12 college performance dimensions in the regression equations. Four approaches were potentially viable. First, Edwards (1993) suggests entering all dimensions into the polynomial regression equations simultaneously. However, he notes that this can quickly become too cumbersome, and has himself opted to use separate regression equations for as few as three dimensions (Edwards & Harrison, 1993). Such an analysis with 12 dimensions would be extremely cumbersome, not to mention uninterpretable. To illustrate, including one variable for the person and one for the organization yields 24 regression weights to interpret within one equation; including those same main effects as well as their squared terms and an interaction term, yields 60 regression weights.

Second, Edwards (1993) suggests that if the dimensions of interest are too numerous, that they should be combined into scale scores and then entered simultaneously into one regression equation. Analyses for the 12 dimensions of dimension-specific direct P-O fit were conducted to identify whether there was a reasonable way to combine the 12 dimensions into subscales. Results from a principal axis factor analysis of the 12 dimensions revealed that the first factor accounted for 36% of the total variance, with the second and third factors accounting for 10 and 9%, respectively. Inspection of the eigenvalues suggests a one-factor solution, with values of 4.3, 1.2, and 1.0 for the first three factors. Varimax-rotated loadings for these three factors with eigenvalues of 1 or greater are provided in Table 3. The results are somewhat supportive of a three-factor structure, though there were some mixed loadings.

In particular, the dimensions multicultural, leadership, citizenship, adaptability, and ethics had moderate ( $>.25$ ) loadings on multiple factors. Nevertheless, the factors can be roughly described as intellectual (second factor), interpersonal (third factor), and intrapersonal (first factor). These labels are consistent with other research published from the current data set (Oswald et al., in press); with minor disagreement regarding the placement of one of the dimensions (the current analyses place multicultural appreciation in the intellectual instead of the interpersonal factor). Coefficient alpha reliabilities for these scales are .69, .68, and .74, for intellectual (4 items), interpersonal (3 items), and intrapersonal (5 items), respectively. The mean correlation among these three scales is .49. While the scales demonstrate nearly acceptable reliabilities, the factor analyses do not lend to a clear interpretation, and the intercorrelations among the scales are high. Without the *a priori* identification of these scales, there is not sufficient *post hoc* justification to use them.

The third option is to collapse all 12 dimensions into one composite score. This is empirically defensible, given the large amount of variance (36%) explained by the first factor, and a coefficient alpha reliability for the 12-item scale of .83. However, such a composite does not stand to conceptual scrutiny when addressing P-O fit. Such a composite would be a sum of “college values”. This means that for the person, a composite of their standing on the 12 dimensions would represent their “values”, and likewise a composite of their report of organizational values would represent the organization’s “values”. Any degree of match/mismatch would thus be based on a comparison of an overall level of values and not on similarity on specific values,

eliminating any notion of congruence between the person and organization on the specific values of interest.

The fourth and remaining option is to treat each dimension separately. This carries the burden of more required analyses than collapsing the dimensions into 3 scales or 1 composite, and the resulting increased complexity in interpreting results. However, this option is operationally tractable (vs. entering all 12 dimensions simultaneously in a regression equation), clearly interpretable (vs. using questionable scale scores), and theoretically meaningful (vs. using a composite of the 12 dimensions). To ease interpretation of results, results will be reported as summaries across the 12 dimensions where theoretically justifiable. Whether the results could be usefully summarized, even if they were not analyzed, by the three factors of intellectual, interpersonal, and intrapersonal was investigated. Unfortunately, none of the patterns of results conformed to this three-factor distinction, as will be shown. The finding that the results did not conform to any patterns representative of the three factors offers additional support to the decision not to use scale scores in the analyses.

#### *Preliminary analyses*

*Outlier detection.* Prior to screening for outliers, all fit variables were centered by subtracting their respective means. To identify multivariate outliers, twelve regression analyses, one for each dimension, were conducted using an arbitrary number - ID number - as the dependent variable (Tabachnick & Fidell, 2001). There are five components that are variously used to define the unconstrained difference score,  $X$ ,  $Y$ ,  $X^2$ ,  $Y^2$ , and  $XY$ , where  $X$  corresponds to individuals' values, and  $Y$  corresponds to organizational values (i.e., individuals' reports of others' values [referred to hereafter in quotes as "others"]

values”)). All terms were investigated for multivariate outliers. Using cutoffs obtained from Tabachnick and Fidell (2001) and von Eye and Schuster (1998), no outliers were detected. In addition to performing multivariate outlier detection, scatterplots for every combination of predictor and criterion variable were examined for the presence of otherwise undetected bivariate outliers and indication of deviant univariate scores. Again, no outliers were detected.

*Modeling indirect P-O fit to predict direct P-O fit.* The second set of preliminary analyses was conducted to identify how to model and analyze the P-O fit construct properly. These analyses follow the Edwards (2002) polynomial regression approach briefly described above. This method requires the a priori identification of a conceptual model of interest (e.g., squared difference, absolute difference, algebraic difference). Conceptually, fit is the “match” between person and organizational characteristics. This “match” implies a symmetric approach where the absolute difference (i.e., the direction does not matter) between person and organizational values is of interest. This does not clearly point to a particular fit model, though the squared difference and absolute difference models are both in line with this symmetric difference approach. Where the absolute difference ( $|D|$ ) is simply how discrepant the individuals’ characteristics are from the organizational characteristics (regardless of the direction of the difference), the squared difference ( $D^2$ ) weights this discrepancy exponentially, yielding disproportionately higher difference values for cases with extreme discrepancies, and relatively lower difference values for cases with low discrepancies. Hence, if differences are assumed to linearly relate to outcomes, the absolute difference score may be the most appropriate conceptual model of congruence. By contrast, if small differences are



considered to be of negligible importance and large differences of great importance, the squared difference score may be the most appropriate. The algebraic difference model subtracts organizational values from individual values. Therefore, a positive correlation between an algebraic difference and outcomes implies that instead of outcomes being optimized by individuals' values corresponding to organizational values, outcomes are optimized when individuals' values are high relative to organizational values. A negative correlation implies that outcomes are optimized when individuals' values are low relative to organizational values. The three models described here were each tested in order to evaluate which had the strongest association with criteria.

*Identifying the conceptual model of congruence for uni-source indirect P-O fit.*

The first task was to determine the conceptual model of congruence that best describes the relationship between individuals' values and "others' values" in predicting individuals' direct P-O fit (i.e., perceptions of how well they fit the university). This conceptual model is the operationalization of P-O fit against which the unconstrained polynomial regression equations are tested (Edwards, 2002). The conceptual models considered were the squared difference ( $D^2$ ), absolute difference ( $|D|$ ), and algebraic difference ( $X-Y$ , where  $X$  is individuals' values and  $Y$  is organizational values). For Uni-source indirect P-O fit,  $D^2$ ,  $|D|$ , and  $X-Y$  produced mean correlations of -.08, -.07, and .05, (see Table 4 for complete results) respectively with direct P-O fit across the 12 dimensions. With the general direct P-O fit measure as the criterion,  $D^2$ ,  $|D|$ , and  $X-Y$  produced mean correlations of -.16, -.15, and -.06, respectively. Note that  $X-Y$  produced mean correlations opposite in sign for the two sets of criteria. When individuals' reported values exceeded what they reported others' values to be, they tended to perceive

greater fit as measured by dimension-specific direct P-O fit but somewhat less fit as measured by the general direct P-O fit measure.  $D^2$  produced slightly stronger correlations than  $|D|$ , and  $X-Y$  produced the smallest correlations, which were also inconsistent in sign. As will be described, additional analyses will be conducted to determine exactly how to model P-O fit here. These analyses will require expanding the  $(|D|)$  and  $(D^2)$  into regression equations that include the terms the difference score comprises. In these expanded equations, the equation corresponding to  $(|D|)$  is contained within the equation corresponding to  $(D^2)$ , which contains its own unique terms. Therefore,  $D^2$  is retained as the conceptual model of congruence for uni-source indirect P-O fit for two reasons: (1) it performed superior to  $X-Y$  and marginally better than  $(|D|)$  as described above, and (2) because its expanded regression equation contains the expanded equation for  $(|D|)$  it offers the most comprehensive test of how to model P-O fit properly. Again,  $D^2$  implies a symmetric congruence approach where the direction of the difference does not matter. Uniquely (vs.  $D$ ),  $D^2$  weights this distance so that it is empirically more meaningful when it is large.

*Identifying the conceptual model of congruence for multi-source indirect P-O fit.*

For multi-source indirect P-O fit,  $D^2$ ,  $|D|$ , and  $X-Y$  produced mean correlations of -.11, -.07, and .24, (see Table 4 for complete results) respectively with direct P-O fit across the 12 dimensions. With the general direct P-O fit measure as the criterion,  $D^2$ ,  $|D|$ , and  $X-Y$  produced mean correlations of -.09, -.07, and .13, respectively. As  $X-Y$  resulted in the strongest relationships (that were of consistent sign this time), the algebraic difference score is used as the starting point for identifying how to best model multi-source indirect P-O fit. Again,  $X-Y$  subtracts organizational values from individual values, so a positive

correlation between an algebraic difference and outcomes implies that instead of outcomes being optimized by individuals' values corresponding to organizational values, outcomes are optimized when individuals' values are high relative to organizational values. Here, this means that direct P-O fit is maximized when individuals' values are greater than organizational values.

*Confirmatory analyses - supporting the conceptual model.* These conceptual models of congruence were then tested against the unconstrained polynomial equations (Edwards, 2002). Hierarchical regressions were conducted in order to determine how to model indirect P-O fit with equations that satisfy the following four conditions: (1) the variance explained by the equation must differ from zero (i.e., the  $R^2$  must be statistically significant), (2) the coefficients should be of the expected significance and sign (e.g., by inspecting beta weights), (3) the constraints corresponding to the model must be satisfied (i.e., the unconstrained equation must not offer incremental validity over the constrained equation), and (4) the additional variance explained by the set of terms one order higher than those in the equation does not differ from zero (i.e., these higher-order terms in the final step of a hierarchical regression equation does not result in a significant  $\Delta R^2$ ). Note that for these confirmatory analyses, only the significance and direction of the relationships between indirect P-O fit variables and direct P-O fit criteria are of interest.

*Results of confirmatory analyses – uni-source indirect measures.* To test the above conditions, a set of hierarchical regressions was conducted, regressing direct P-O fit on indirect P-O fit variables. Results are provided in Table 5. For  $D^2$ , condition 1 was satisfied. For the criterion of dimension-specific direct P-O fit,  $R^2$  was significant for 11 of the 12 dimensions. For the criterion of general direct P-O fit,  $R^2$  was also significant

for 11 of the 12 dimensions. As shown previously in Table 4, these relationships were of the expected significance and sign, satisfying condition 2. Condition 3, however, was not supported. The constraints implied by the  $D^2$  model were rejected because the  $\Delta R^2$ 's in Step 2 (the unconstrained model corresponding to  $D^2$ , shown below) were significant for all dimensions across both sets of criteria. Therefore, the unconstrained model corresponding to  $D^2$  was investigated. That model is

$$Z = b_0 X + b_1 Y + b_2 XY + b_3 X^2 + b_4 Y^2.$$

The significant  $\Delta R^2$ 's for all dimensions for Step 2 (entering  $X$ ,  $Y$ ,  $XY$ ,  $X^2$ , and  $Y^2$ ; Table 4) indicate that condition 3 was not supported for the constrained model, and that for the unconstrained model, condition 1 is satisfied and condition 3 is moot (because the constraints implied by  $D^2$  were already rejected). Step 3, where  $XY^2$ ,  $X^3$ , and  $Y^3$  were added, indicates that for all but 3 regressions of 24, the inclusion of terms one-order higher than the unconstrained  $D^2$  equation did not offer incremental validity. Therefore, condition 4 is mostly satisfied for the unconstrained equation. Table 6 provides unconstrained  $D^2$  equation results for condition 2, where the direct P-O fit criteria (both dimension-specific and general) are regressed solely on the  $X$ ,  $Y$ ,  $XY$ ,  $X^2$ , and  $Y^2$  components in order to interpret the regression weights properly.

For the criterion of dimension-specific direct P-O fit, Table 6 shows that  $X$  is significant and positive for all 12 dimensions, and  $Y$  is significant and positive for 11 of the 12. The squared terms,  $X^2$  and  $Y^2$ , are significant and negative for five and three, respectively, of the 12 dimensions, and the interaction term is significant and positive for five of the dimensions ( $p$ 's < .05). For the criterion of general direct P-O fit, Table 6 shows that  $X$  is significant and positive for six of the 12 dimensions, and  $Y$  is significant

and positive for 11 of the 12 dimensions.  $X^2$  and  $Y^2$  are significant and negative for two and six of the dimensions, respectively, and the interaction term is positive and significant for seven of the 12 dimensions ( $p$ 's < .05). As for satisfying the second condition required for identifying the proper P-O fit model, results here are mixed. Clearly, not all of the coefficients in the unconstrained version of the squared difference model are significant. However, the unconstrained model was shown to represent the data significantly better than the constrained model. Further, all of the component weights were significant for at least a small portion of the regression equations, and the patterns of signs on the significant weights were consistent.

Substantive interpretation of these patterns is as follows: Greater fit is directly reported when individuals' values are high, as well as when reports of others' values are high. In interpreting the squared terms, recall that the variables were mean-centered prior to these analyses. Values are thus exponentially weighted as a function of their absolute distance from the mean. This means that greater fit is directly reported by individuals as their reports of their own and others' values are closer to the mean. One interpretation of the positive interaction term weight is that greater fit is reported when individuals' values and their report of others' values are most similar. The direction of these relationships, and for the most part, their significance, is as should be expected. Therefore, the complete unconstrained version of the squared difference equation is retained as the most appropriate model for indirect P-O fit, when direct P-O fit is the criterion.

*Results of confirmatory analyses – multi-source indirect measures.* A series of hierarchical regressions were conducted to test the four conditions (Edwards, 2002) for multi-source indirect P-O fit for the criteria of dimension-specific direct P-O fit and

general direct P-O fit (see Table 7). Providing support for the first condition,  $R^2$ 's for regressions on all twelve of the dimension-specific P-O fit measures were significant ( $p < .05$ ), as were 10 of the 12 regressions on general direct P-O fit.

Support for condition 2 is tenuous (see Table 8). While all but three of the 144 (12  $X$ - $Y$  scores  $\times$  12 criteria) coefficients were significant ( $p < .05$ ) and positive for dimension-specific direct P-O fit, and all but one of the 12 coefficients for general direct P-O fit were significant ( $p < .05$ ) and positive, the idea that fit is maximized when individual's values are higher than the values representative of their college does not conform to any theory advanced here. Condition 3 currently requires that the  $\Delta R^2$ 's in Step 2 of Table 8 not be significant. That is the case for four regressions on dimension-specific direct P-O fit and 11 regressions on general direct P-O fit. These results do not point to a clear decision supporting or rejecting condition 3 – neither for all of the dimensions overall nor for any particular dimensions. In order to aid in interpreting these mixed results, additional analyses were conducted. First, to follow-through on Edwards' prescription (2002), condition 4 was tested.  $XY$ ,  $X^2$ , and  $Y^2$  were added to the regression equations – the results can be seen in Table 7. The inclusion of these higher-order terms resulted in a significant  $\Delta R^2$  for one of 12 regressions on dimension-specific direct P-O fit and for two of 12 regressions on general direct P-O fit. Based on these results, condition 4 is mostly satisfied. Second, because use of the  $X$ - $Y$  difference score does not conform to theory, and results pertaining to condition 3 were mixed, additional analyses were conducted in order to investigate how  $X$  and  $Y$  function as independent components. Results are provided in Table 9, for which  $X$  and  $Y$  were regressed on the criteria of dimension-specific and general direct P-O fit. These regressions show empirically that  $X$

(the person component) is the operative variable and that  $Y$  (the organization component) is essentially meaningless.  $X$  was nonsignificant ( $p > .05$ ) for only two of 12 regressions, both of which were for the criterion of general direct P-O fit. In contrast,  $Y$  was significant ( $p < .05$ ) for only one of 12 regression equations.

Thus far, these results indicate that  $X$  and  $Y$  as separate components may represent multi-source indirect P-O fit better than the difference score,  $X-Y$ , but  $Y$  does not significantly relate to direct P-O fit criteria. This suggests that  $X$  may be driving the relationship, and subtracting  $Y$ , as in the difference score, may just add additional variability that does not relate to criteria. To evaluate this hypothesis, one more set of analyses was conducted:  $X$  was entered in Step 1, and  $X-Y$  in Step 2, for regressions on the direct P-O fit criteria in order to determine whether the difference score offers any incremental validity over  $X$  itself. Shown in Table 10, the difference score did not significantly increment criterion-related validity above  $X$  for 23 of the 24 regression equations ( $X-Y$  significantly [ $p < .05$ ] incremented  $X$  for the dimension of ethics when predicting general direct P-O fit).

Altogether, these results indicate that for multi-source indirect P-O fit, the  $Y$  variable, college values, does not meaningfully relate to the criterion of direct P-O fit. For the reader interested in determining the appropriateness of aggregating individuals' values to college values, descriptive statistics by college are provided in Appendix J. The lack of meaningful "organizational values" precludes testing any hypotheses pertaining to multi-source indirect P-O fit, as the  $X$  component in multi-source indirect is already included as a component of uni-source indirect P-O fit. This means that, while a primary substantive interest of the current paper involves a comparison of perceptions of

P-O fit to relatively objective P-O fit assessments, the only usable operationalizations of P-O fit are still highly subjective.

### *Restated Hypotheses and Results*

*Revised hypothesis 1.* This hypothesis has been revised to reflect the lack of support for the multi-source indirect P-O fit measure; that construct (and H1F accordingly) has been removed. Additionally, it has been determined that uni-source indirect P-O fit is best operationally defined by the separate components of *individual's self-reported values (X)*, *individuals' reports of organizational values (Y)*, the interaction term ( $XY$ ),  $X^2$ , and  $Y^2$ . Therefore, the relationship between the personality traits and these components will be investigated. It is expected that personality traits will relate both to individuals' values and their perception of others' values. This expectation was originally made explicit so as to not confound interpretation of the relationship between personality traits and direct P-O fit with the relationship between personality traits and the values on which fit is assessed. However, the direction and magnitude of the relationships between personality traits and *values* is not in itself of interest in the current study. The revised hypothesis is that personality will relate as previously described to general direct measures of P-O fit (H1A), specific direct measures of P-O fit (H1B), individuals' self-reported values (H1C), and individuals' reports of organizational values (H1D).

Results pertaining to hypotheses H1A – H1D can be found in Table 2 and Appendix J. Table 2 provides a summary (across the 12 dimension) of Appendix J, which provides sample size, means, standard deviations, and intercorrelations for all variables studied. For H1A, as predicted, general direct P-O fit correlated significantly ( $p$



< .05) and positively with extraversion ( $r=.13$ ), agreeableness ( $r=.09$ ), emotional stability ( $r=.14$ ), and locus of control ( $r=.14$ ). Contrary to the hypothesis, cross-situational variability correlated negatively ( $r=-.16$ ,  $p < .01$ ) with the measure of general direct P-O fit. The correlation for conscientiousness was not significant, but the hypothesis for this dimension was exploratory. The lack of significant correlations for self-deception and impression management was contrary to the hypothesized positive relationships.

Hypothesis H1B predicted that the personality traits would relate to dimension-specific P-O fit measures. A summary of these results is provided in Table 2, and the interested reader can refer to Appendix J for dimension-specific information. The hypotheses were generally supported. Extraversion produced all positive correlations, six of which were significant ( $p < .05$ ), with a mean correlation of .12. Agreeableness produced a pattern of all significant ( $p < .01$ ) and positive correlations across the 12 dimensions, with a mean correlation of .17. Conscientiousness produced nearly all (except for one) significant ( $p < .05$ ) and all positive correlations (this hypothesis was exploratory), with a mean  $r$  of .14. Emotional stability produced mostly significant ( $p < .05$ ) and all positive correlations, with a mean  $r$  of .11. Openness produced some correlations of relatively large magnitude (up to .32), all of which were positive and most of which were significant ( $p < .05$ ), with a mean  $r$  of .13. Self-deception also produced correlations that were all positive and mostly significant ( $p < .05$ ), with a mean  $r$  of .13. Interestingly, contrary to the results previously described and contrary to the hypothesized direction, impression management produced correlations that were all negative, and mostly significant ( $p < .05$ ), with a mean  $r$  of -.11. Locus of control produced correlations of relatively small magnitude, but all were positive and most were

significant ( $p < .05$ ), with a mean  $r$  of .11. Contrary to my hypothesis, cross-situational variability produced all negative correlations, only one of which was significant ( $p < .05$ ), the mean  $r$  being -.02.

Table 2 shows that for H1C, the relationships between the personality traits and individuals' values followed a pattern highly similar to that observed between the personality traits and the dimension-specific P-O fit measures. This is the case for all of the personality traits – positive relationships were observed for extraversion, agreeableness, conscientiousness, emotional stability, openness, and self-deception; negative relationships for impression management, and no significant relationships for locus of control.

With respect to H1D, the direction and magnitude of relationships were not hypothesized, hence the results are simply described. Correlations between the personality traits and perceptions of others' values were of smaller magnitudes and of a different pattern than was observed for individuals' values. Extraversion correlated significantly ( $p < .05$ ) with 2 of the 12 dimensions, with all but one value being positive, with a mean correlation of .05. Agreeableness demonstrated significant ( $p < .05$ ) correlations for nine of the 12 dimensions - all correlations were positive, with a mean of .10. Correlations for conscientiousness were of mixed sign, and only two were significant ( $r$ 's of .10 and .11,  $p < .05$ ). All correlations with emotional stability were positive, but only half were significant ( $p < .05$ ), with a mean of .07. Openness produced only one significant ( $p < .05$ ) correlation, though negative in contrast to the hypothesized direction. Self-deception did not produce any significant ( $p < .05$ ) correlations with perceptions of others' values. Impression management performed similarly, but resulted

in one significant ( $p < .05$ ), though negative, correlation. All of the correlations for locus of control were positive, and five were significant ( $p < .05$ ), with a mean of .07. None of the correlations for cross-situational variability were significant ( $p < .05$ ).

*Revised hypothesis 2.* Due to the reconceptualization of the uni-source indirect P-O fit measure as its separate components, and the abandoning of multi-source indirect P-O fit here, only general direct and specific direct measures remain from the original hypothesis. Thus, the revised hypothesis is that personality traits will relate bear the strongest relationships with general direct measures of P-O fit, followed by specific direct measures of P-O fit.

Results pertaining to this hypothesis can also be obtained from data provided in Table 2, with greater detail presented in Appendix J. In order to compare the relative strength of the relationship between personality traits and the two different types of direct P-O fit measures, the mean of the 12 correlations for the dimension-specific direct P-O fit measures was used. This hypothesis was not supported. There were small differences in the relationships with personality traits for the two direct P-O fit measures, although neither demonstrated consistently stronger associations. These differences, though small, show clearly different patterns of associations for the two direct P-O fit measures, suggesting that they do not reflect the same underlying construct.

*Revised hypothesis 3.* Again, due to the reconceptualization of the uni-source indirect P-O fit measure as its separate components, and abandoning of multi-source indirect P-O fit as a meaningful construct in the current study, this hypothesis is revised. Direct P-O fit can be predicted largely from the combination of uni-source indirect P-O fit measures and relevant personality traits as follows:

- A. Uni-source indirect P-O fit components will relate to the direct P-O fit measures.
- B. Personality variables will relate to direct P-O fit measures. This sub-hypothesis is simply a re-iteration of a portion H1A and H1B. Hence, the results will not be re-presented in this section.
- C. Personality variables will offer incremental validity in predicting direct P-O fit measures, over indirect measures by themselves.
- D. Finally, the relationship between personality traits and direct P-O fit controlling for uni-source indirect P-O fit will offer the most complete test of the hypothesized relationships between personality variables and fit perceptions previously described in the text. Specifically, excepting conscientiousness, whose hypothesis is regarded as exploratory, each of the Big Five traits (H3Di-H3Dv), and the four narrow-bandwidth traits (H3Dvi-H3Dix) will relate positively to direct P-O fit.

To address H3A, Table 11 provides correlations between the components that operationalized uni-source indirect P-O fit and the direct P-O fit measures. This information is relevant only insofar as it informs how to interpret the relationship between personality traits and uni-source indirect P-O fit after controlling for the relationship between uni-source indirect, and direct, P-O fit. Hence, these relationships are not interpreted here – the interested reader may refer to the table.

Because H3B was a restatement of H1A and H1B, the results are not re-presented. To test H3C and H3D, hierarchical regression equations were constructed, regressing both forms of direct P-O fit (i.e., dimension-specific and general fit) on the components

representing indirect P-O fit ( $X$ ,  $Y$ ,  $XY$ ,  $X^2$ , and  $Y^2$ ) in Step 1, and the personality variables in Step 2. Support for the hypotheses thus rests on significant  $\Delta R^2$ 's in Step 2 (H3C), along with the direction and significance of the regression weights in that step (H3D). For dimension-specific direct P-O fit, each regression matched the criterion dimension with the indirect P-O fit dimensions. For example, for the dimension of artistic, individuals' directly reported fit on artistic was regressed onto individuals' values, "others' values," and the higher-order terms for that same dimension. For general direct P-O fit, that scale score was regressed onto the components corresponding to each of the 12 dimensions separately. For ease of interpretation, each regression was run twice for Step 2: once for the simultaneous entry of all the Big Five personality traits (i.e., the IPIP scales of extraversion, agreeableness, conscientiousness, emotional stability, and openness) and once for the simultaneous entry of the four more narrow-bandwidth traits (i.e., self-deception, impression management, locus of control, and cross-situational variability).

Table 12 provides results of these 48 hierarchical regressions. For the dependent variable of dimension-specific direct P-O fit, the IPIP scales (H3Di – H3Dv) provided a significant  $\Delta R^2$  for seven of the 12 dimensions, with a mean increment over the indirect P-O fit components (which themselves demonstrated a mean  $R^2 = .275$ ) of .018.

Extraversion produced significant and positive  $\beta$ 's (all  $p$ 's < .05) for four dimensions (artistic, leadership, interpersonal, and citizenship) and one negative and significant  $\beta$ , for the dimension of ethics. Agreeableness only produced one significant  $\beta$ , which was positive, for the dimension of ethics. Conscientiousness produced significant and positive  $\beta$ 's for half of the dimensions (knowledge, learning, artistic, leadership, career,

and perseverance). Emotional stability produced significant and positive  $\beta$ 's for four dimensions (interpersonal, citizenship, health, and adaptability). Openness produced two significant and positive  $\beta$ 's (for the dimensions of knowledge and artistic). All other regression weights were nonsignificant.

For the same criterion, the narrow-bandwidth traits (H3Dvi – H3Dxi) produced a significant  $\Delta R^2$  for six of the 12 dimensions, with a mean increment over the indirect P-O fit components of .010. Self-deception produced significant and positive  $\beta$ 's for three dimensions (interpersonal, citizenship, and career). Impression management, contrary hypothesis 3Dvi, produced two significant and negative  $\beta$ 's, for the dimensions of perseverance and ethics. Neither locus of control nor cross-situational variability was significant, contrary to hypotheses.

For the criterion of general direct P-O fit, the IPIP scales (HD3i – H3Dv) provided a significant  $\Delta R^2$  for 11 of the 12 dimensions, with a mean increment over the indirect P-O fit components (which themselves demonstrated a mean  $R^2 = .079$ ) of .027. Extraversion produced significant and positive  $\beta$ 's for 10 of the dimensions (all except leadership and interpersonal). Contrary to Hypotheses 3Dii and 3Diii, neither agreeableness nor conscientiousness was significant. Emotional stability produced significant and positive  $\beta$ 's for all of the 12 dimensions. Contrary to Hypothesis 3Dv, openness produced significant and negative  $\beta$ 's for six dimensions (artistic, multicultural, leadership, adaptability, and perseverance).

For the same criterion, the narrow-bandwidth traits produced a significant  $\Delta R^2$  for all of the twelve dimensions, with a mean increment over the indirect P-O fit components of .038. Contrary to Hypotheses 3Dvi and 3Dvii, neither self-deception nor impression

management was significant. For hypothesis 3Dviii, Locus of control produced significant and positive  $\beta$ 's for all 12 dimensions. Contrary to Hypothesis 3Dix, cross-situational variability produced significant and negative  $\beta$ 's for all 12 dimensions.

### Discussion

Mixed but largely supportive results were obtained for hypothesis 1. H1A involved the relationship between personality traits and general direct P-O fit. The only personality traits that demonstrated statistically significant relationships with general direct P-O fit were agreeableness, emotional stability, locus of control, and cross-situational variability. However, cross-situational variability functioned counter to the hypothesized direction – individuals with greater cross-situational variability reported less fit. H1B substituted dimension-specific direct P-O fit for general direct P-O fit. Results were more supportive for this set of hypotheses, with all personality traits functioning as predicted except for impression management, which was mostly significant yet in the opposite direction as expected, and cross-situational variability which only produced one significant (negative) correlation. H1C was an exploratory investigation of the relationship between personality traits and individuals' values. With the exception of impression management (which was negatively related) and cross-situational variability (which was not related), all of the personality traits correlated positively with individuals' values. H1D was also an exploratory investigation, this time of the relationship between personality traits and individuals' perceptions of others' values. The only personality traits that demonstrated substantial relationships (defined as a mean correlation of at least .07) to "others' values" were agreeableness, emotional stability, and locus of control and all correlations for these variables were positive.

Hypothesis 2 was not supported. The prediction was that the personality traits would correlate more highly with general versus dimension-specific direct P-O fit. Not only were the correlations for dimension-specific direct P-O fit larger on average (by .03 in absolute magnitude), but the patterns of correlations between the two fit measures were different. This can be directly observed by comparing column numbers 1 and 2 in Table 2, looking at row numbers 6 through 13. Agreeableness, conscientiousness, openness, self-deception, and impression management related more strongly to the dimension-specific direct P-O fit measures while emotional stability, locus of control, and cross-situational variability related more strongly to general direct P-O fit measures.

Results supported some of the predictions of hypothesis 3, involving the relationships between personality variables and directly reported P-O fit after controlling for indirect P-O fit. However, some personality variables were not consistently predictive, as hypothesized, and others functioned opposite to what was hypothesized. Consistent with hypothesis 3Di, individuals high on extraversion generally reported greater fit than their low extraversion counterparts, controlling for indirectly measured P-O fit. This finding was more pronounced for the criterion of general direct P-O Fit as compared to dimension-specific direct P-O Fit. The hypothesized (3Dii) role of agreeableness was not supported. Only one of 24 regression weights calculated for agreeableness was significant, and it could probably be dismissed as being due to chance. A directional hypothesis (3Diii) could not be derived for conscientiousness, but it did demonstrate a positive relationship with dimension-specific direct P-O Fit for half of the dimensions on which fit was assessed. It is unclear why this relationship exists. It may be that conscientious individuals perform better at college; hence they think they fit better



than they do. However, the results do not speak to this. Consistent with Hypothesis 3Div, a positive relationship between emotional stability and directly reported P-O fit was generally found, with more and greater significant relationships for the criterion of general direct P-O Fit, compared to dimension-specific direct P-O Fit. Hypothesis 3Dv was not supported; the strongest and most consistent relationships exhibited by openness to experience were negative for the criterion of general direct P-O Fit. Weak support was found for Hypothesis 3Dvi, where self-deception significantly related to dimension-specific direct P-O Fit, but not at all to general direct P-O Fit. Neither was 3Dvii supported, in that impression management demonstrated only two, negative, significant relationships, both for the criterion of dimension-specific Direct P-O Fit. Hypothesis 3Dviii, that LOC would relate positively, was fully supported for general direct, but not at all for dimension-specific, P-O fit. A clear and opposite pattern of results was found for Hypothesis 3Dix, where cross-situational variability demonstrated significant negative relationships with general direct P-O Fit. A general pattern of findings was that personality traits, on average, demonstrated stronger relationships with directly measured P-O fit (controlling for indirect fit components) when direct fit was operationalized as a general measure (mean  $\Delta R^2$ 's were about .03 for the Big Five and .04 for the narrow-bandwidth traits) than when fit was assessed on specific dimensions (mean  $\Delta R^2$ 's were about .02 for the Big Five and .01 for the narrow-bandwidth traits).

In sum, predictable biases in individuals' perceptions of how well they fit an organization exist. The remaining variance in individuals' perceptions of how well they fit after accounting for the individual and organizational characteristics on which fit is being assessed can be partially explained by the personality variables included in this

study. These findings suggest that direct measures of P-O fit capture unwanted, or at least heretofore unspecified, variance that has implications for how the construct should be interpreted. This also means that personality traits can offer partial explanations for individuals who fall into the mismatch cells in Figure 1.

The implications of these results are that researchers and practitioners should be cognizant that personality traits do influence direct P-O fit assessments in ways not accounted for by indirect P-O fit assessments, but the influence appears to be relatively small. However, indirect measures of P-O fit did not themselves explain much of the variance in direct P-O fit measures either. In fact, when incorporating perceived personal and organizational values and personality traits, only approximately 30% of the variance in specific direct P-O fit, and approximately 20% of the variance in general direct P-O fit (entering all indirect fit components and personality variables simultaneously), was explained.

A larger issue may be the relative importance of subjective versus objective P-O fit. These constructs, seemingly different poles on a subjectivity continuum of the same general construct, are very different. Even when using all self-report data and same-person perceptions of fit, personal values, and organizational values, there was little convergence between the two sets of measures, and only a small portion of the variance in perceptions of P-O fit could be explained by perceptions of values and personality traits. If perceptions are really what drive behavior anyway, then there may not be much of a place for the increased cost and complexity associated with objective P-O fit measures.

However, one context in which objective measures may be preferable is in an applicant setting. Applicants may be motivated to appear to fit with a particular organization better than they actually do. This motivation would allow for value congruence to be easily faked when using direct P-O fit measures.

While the current study did not ask participants to fake, the results hint that direct reports of P-O fit could be adjusted to reflect actual fit, or that objective measures could be adjusted to reflect how well applicants or employees perceive that they fit. In either case, the results are not strong or stable enough to derive practically useful adjustments. A greater percentage of the remaining variance in perceptions of P-O fit (after accounting for objective P-O fit) must first be explained. However, the case is made clear from the current data that the type of fit measured matters, as the estimates here indicate that subjective and objective P-O fit are two very different constructs.

### Limitations

A potential limitation of the current study is the low reliability of the general direct P-O fit measure ( $\alpha=.65$ ). The measure used in the current study was adapted from an existing measure, in a manner consistent with other existing research (e.g., Cable & Judge, 1996; Cable & Judge, 1997; Cable & Parsons, 2001; Dineen, Ash, & Noe, 2002; Judge & Cable, 1997; Kristof-Brown, 2000). Therefore, the low reliability is somewhat surprising, and this finding suggests that a better measure of general direct P-O fit might be a useful endeavor for future researchers. An implication of the measure's low reliability is that results and associations with other measures reported here may be weak indications of the true relationships.

A more substantive limitation is the lack of a well-defined organizational culture. This is perhaps the most plausible explanation of why “college values” were essentially meaningless in this study. Some indirect measures of P-O fit, such as the multi-source operationalizations described by the current study, require a meaningful and interpretable set of values on the part of the organization. As the goal of this study was to investigate predictable differences among P-O fit operationalizations, including multi-source methods, this is a substantial limitation as the study was not able to answer questions that included such measures.

A related limitation of the current study may be the values selected. Characteristics representative of the college student performance domain were selected, and participants were asked how much they valued them. This is consistent with existing research that has identified salient organizational characteristics and asked participants how much they value them (e.g., O'Reilly & Chatman, 1991). However, two complications exist as a result of selecting these values. First, the 12 dimensions on which fit was assessed were designed to be parsimonious yet comprehensive across the domain of student performance. As a result, they had to be treated independently in the analyses, making the analyses and results more cumbersome than they might otherwise be. Second, some of the “values” are really *skills* (e.g., leadership skills, interpersonal skills, adaptability and life skills), however participants were in fact asked how much they *value* the characteristics.

As a final limitation, the current study sought to estimate predictable differences captured by personality traits by focusing on individual's perceptions of their own and “organizational” values. All of these variables are self-report, and taken at the same point

in time, resulting in a potential method-bias issue. In addition to relating to perceptions of P-O fit (i.e., direct P-O fit), the self-report personality variables investigated in the current study also related to individuals' perceptions of their own values as well as the values they perceived others to have. However, the relationships between personality traits and both perceptions of fit and self-reported values were similar, and opposite influences on "others values" were not found. Therefore, results pertaining the relationship between personality traits and unique variance in perceptions of P-O fit (controlling for indirect P-O fit) can be considered conservative. Further, estimates of the common variance among personality traits, individuals' perceptions of fit, and individuals' perceptions of others' values can be considered generous. It is reasonable to expect that relatively objective measures that do not incorporate individuals' perceptions in their assessment of the organization's values (or of their own values) should be different from the measures here. They should have less (or no) variance in common with individuals' personality traits, allowing for more common variance between the subjective fit assessments and personality that is not accounted for by the relatively objective assessments. Future research in organizations with more coherent values, using relatively more objective assessments that do not rely on participants' self-report can offer additional insight into how personality influences perceptions of P-O fit.

## References

- Adkins, C. L., Russell, C. J., & Werbel, J. D. (1994). Judgments of fit in the selection process: The role of work value congruence. *Personnel Psychology, 47*, 605-623.
- Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44*, 1-26.
- Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance: The meaning for personnel selection research. *Human Performance, 10*, 99-109.
- Bourgeois, L. J., III (1985). Strategic goals, perceived uncertainty and economic performance in volatile environments. *Academy of Management Journal, 28*, 548-573.
- Cable, D. M., & Judge, T. A. (1996). Person-organization fit, job choice decisions, and organizational entry. *Organizational Behavior and Human Decision Processes, 67*, 294-311.
- Cable, D. M., & Judge, T. A. (1997). Interviewers' perceptions of person-organization fit and organizational selection decisions. *Journal of Applied Psychology, 82*, 546-561.
- Cable, D. M., & Parsons, C. K. (2001). Socialization tactics and person-organization fit. *Personnel Psychology, 54*, 1-23.
- Campbell, J. P., Gasser, M. B., & Oswald, F. L. (1996). The substantive nature of job performance variability. In K. R. Murphy (Ed.), *Individual differences and behavior in organizations*. San Francisco: Jossey-Bass.
- Costa, P. T. Jr., & McCrae, R. R. (1985). Hypochondriasis, neuroticism, and aging: When are somatic complaints unfounded? *American Psychologist, 40*, 19-28.
- Costa, P. T. Jr., & McCrae, R. R. (1992). *Revised NEO personality inventory (NEO-PI-R) and NEO five-factor (NEO-FFI) inventory professional manual*. Odessa, FL: PAR.
- Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models, *Journal of Applied Psychology, 83*, 234-46.
- Dawis, R. V., & Lofquist, L. H. (1984). *A psychological theory of work adjustment*. Minneapolis, Minnesota: University of Minnesota Press.
- Dineen, B. R., Ash, S. R., & Noe, R. A. (2002). A web of applicant attraction: Person-

- organization fit in the context of web-based recruitment. *Journal of Applied Psychology*, 84, 723-734.
- Edwards, J. R. (1993). Problems with the use of profile similarity indices in the study of congruence in organizational research. *Personnel Psychology*, 46, 641-665.
- Edwards, J. R. (1994). The study of congruence in organizational behavior research: Critique and proposed alternative. *Organizational Behavior and Human Decision Processes*, 58, 51-100.
- Edwards, J. R. (2001). Ten difference score myths. *Organizational Research Methods*, 4, 265-287.
- Edwards, J. R. (2002). Alternatives to difference scores: Polynomial regression analysis and response surface methodology. In F. Drasgow & N. Schmitt (Eds.), *Measuring and analyzing behavior in organizations* (pp. 350-400). San Francisco, CA: Jossey-Bass.
- Edwards, J. R., & Harrison, R. V. (1993). Job demands and worker health: Three-dimensional reexamination of the relationship between person-environment fit and strain. *Journal of Applied Psychology*, 78, 628-648.
- French, J. R., Caplan, R. D., & Harrison, R. V. (1982). *The mechanisms of job stress and strain*. New York: Wiley.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 48, 26-34.
- Goldberg, L. R. (1999). A broad-bandwidth, public-domain, personality inventory measuring the lower-level facets of several five-factor models. In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality psychology in Europe* (Vol. 7., pp. 7-28). Tilburg, The Netherlands: Tilburg University Press.
- Gillespie, M. A., Kim, B. H., Oswald, F. L., Ramsay, L. J., & Schmitt, N. (2002). *Interim report, biodata and situational judgment inventories as measures of college success: Development and pilot testing phases*. New York, NY: College Board.
- Graziano, W. G., & Eisenberg, N. H. (1997). Agreeableness: A dimension of personality. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology* (pp. 795-825). San Diego: Academic Press.
- Grinyer, P., & Norburn, D. (1975). Planning for existing markets: An empirical study. *International Studies in Management and Organization*, 7, 99-122.
- Hogan, J., & Hogan, R. (1989). How to measure employee reliability. *Journal of Applied*

*Psychology*, 74, 273-279.

- Hogan, J., & Ones, D. S. (1997). Conscientiousness and integrity at work. In R. Hogan, J. Johnson, & S. Briggs (Eds.), *Handbook of personality psychology* (pp. 849-872). San Diego: Academic Press.
- Holland, J. L. (1985). *Making vocational choices: A theory of vocational personalities and work environments*. Englewood Cliffs, N. J.: Prentice-Hall, Inc.
- Hough, L. M., & Oswald, F. L. (2000). Personnel selection: Looking toward the future—Remembering the past. *Annual Review of Psychology*, 51, 631-664.
- Judge, T. A., & Cable, D. M. (1997). Applicant personality, organizational culture, and organization attraction. *Personnel Psychology*, 50, 359-394.
- Klein, K. J., Dansereau, F., & Hall, R. (1994). Levels issues in theory development, data collection and analysis. *Academy of Management Review*, 19, 195-229.
- Kozlowski, S. W. J., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research and methods in organizations: Foundations, extensions, and new directions*. San Francisco, CA: Jossey-Bass.
- Kristof, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology*, 49, 1-49.
- Kristof-Brown, A. L. (2000). Perceived applicant fit: Distinguishing between recruiters' perceptions of person-job and person-organization fit. *Personnel Psychology*, 53, 643-671.
- Lennox, R. D. & Wolfe, R. N. (1984). Revision of the self-monitoring scale. *Journal of Personality and Social Psychology*, 46(6), 1349-1364.
- Lewin, K. (1935). *A Dynamic Theory of Personality: Selected Papers*. New York: McGraw-Hill.
- Locke, E. A., (1976). The nature and causes of job satisfaction. In Dunnette, M. D. (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297-1343). Chicago: Rand McNally.
- Meglino, B. M., & Ravlin, E. C. (1998). Individual values in organizations: Concepts, controversies, and research. *Journal of Management*, 24(3), 351-389.
- Meglino, B. M, Ravlin, E. C., & Adkins, C. L (1989). A work values approach to



- corporate culture: A field test of the value congruence process and its relationship to individual outcomes. *Journal of Applied Psychology*, 74(3), 424-432.
- Merriam-Webster (2001). *Merriam-Webster's Collegiate Dictionary*. Merriam-Webster, Inc.: Springfield, MA.
- McCrae, R. R., & Costa, P. T. (1999). A five-factor theory of personality. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 139-153). New York: Guilford.
- Muchinsky, P. M., & Monahan, C. J. (1987). What is person-environment congruence?: Supplementary versus complementary models of fit. *Journal of Vocational Behavior*, 31, 268-277.
- Murphy, K. R., & Shiarella, A. H. (1997). Implications of the multidimensional nature of job performance for the validity of selection tests: Multivariate frameworks for studying test validity. *Personnel Psychology*, 50(4), 823-854.
- O'Reilly, C. A. III, Chatman, J., & Caldwell, D. G. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal*, 34, 487-516.
- Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel Psychology*, 48, 775-802.
- Oswald, F. L., Schmitt, N., Ramsay, L. J., Kim, B. H., & Gillespie, M. A. (in press). Alternative predictors of college student success. *Journal of Applied Psychology*.
- Patsfall, M. R., & Feimer, N. R. (1985). The role of person-environment fit in job performance and satisfaction. In Bernardin H. J., & Bownas, D. A. (Eds.), *Personality assessment in organizations* (pp. 53-81). New York: Praeger.
- Paulhus, D.L., & Martin, C.L. (1988). Functional flexibility: A new conception of interpersonal flexibility. *Journal of Personality & Social Psychology*, 55, 88-101.
- Paulhus, D. L., & Reid, D. (1991). Enhancement and denial in socially desirable responding. *Journal of Personality and Social Psychology*, 60, 307-317.
- Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology*, 84, 612-624.
- Ravlin, E. C., & Meglino, B. M. (1987). Effects of values on perception and decision making: A study of alternative work value measures. *Journal of Applied Psychology*, 72, 666-673.

- Roccas, S., Sagiv, L., Schwartz, S., & Knafo, A. (2002). The Big Five personality factors and personal values. *Personality and Social Psychology Bulletin*, 28, 789-801.
- Rokeach, M. (1973). *The nature of human values*. New York: Free Press.
- Ross, L. D., Amabile, T. M., & Steinmetz, J. L. (1977). Social roles, social control, and biases in social-perception processes. *Journal of Personality & Social Psychology*, 35, 485-494.
- Rotter, J. B., (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80 (1, Whole No. 609).
- Ryan, A. M., & Kristof-Brown, A. (2003). Focusing on personality in person-organization fit research: Unaddressed issues. In M. R. Barrick & A. M. Ryan (Eds.), *Personality and work: Reconsidering the role of personality in organizations* (pp. 262-288). San Francisco: Jossey-Bass.
- Saks, A. M., & Ashforth, B. E. (1997). A longitudinal investigation of the relationships between job information sources, applicant perceptions of fit, and work outcomes. *Personnel Psychology*, 50, 395-426.
- Schneider, B. (2001). Fits about fit. *Applied psychology: An international review*, 50, 141-152.
- Schneider, B., Kristof-Brown, A., Goldstein, H. W., & Smith, D. B. (1997). What is this thing called fit? In N. Anderson & P. Herriot (Eds.), *International handbook of selection and assessment*. London: John Wiley & Sons Ltd.
- Snyder, M. (1974). The self-monitoring of expressive behavior. *Journal of Personality and Social Psychology*, 30, 526-537.
- Tellegen, A. (1985). Structures of mood and personality and their relevance to assessing anxiety, with an emphasis on self-report. In A. H. Tuma & J. D. Maser (Eds.), *Anxiety and the anxiety disorders* (pp. 681-706). Hillsdale, NJ: Erlbaum.
- Valecha, G. K. (1972). Construct validation of internal-external locus of reinforcement related to work-related variables. Proceedings of the 80th Annual Convention of the American Psychological Association, 7, 455-457.
- Verquer, M. L., Beehr, T. A., & Wagner, S. (2001). Narrative and meta-analytic reviews of person-organization fit research: Conceptual and measurement issues and relationships with work attitudes. Paper presented at the 16<sup>th</sup> Annual Conference of the Society for Industrial and Organizational Psychology, San Diego, California.

- Walsh, W. B., Craik, K. H., & Price, R. H. (1992). *Person-environment psychology: Models and perspectives*. Hillsdale, NJ, England: Lawrence Erlbaum Associates, Inc.
- Watson, D. & Clark, L. A. (1997). Extraversion and its positive emotional core. In R. Hogan, J. Johnson, & S. Briggs (Eds.). *Handbook of personality psychology*. (pp. 767-794). San Diego: Academic Press.
- Werbel, J.D., & Gilliland, S.W. (1999). Person-environment fit in the selection process. In Ferris, G.R. (Ed.) *Research in human resources management*, 17, 209-243. Stamford, CT: JAI Press, Inc.
- Wiggins, J. S. & Pincus, A. L. (1992). Personality structure and assessment. *Annual Review of Psychology*, 43, 417-440.
- Wollack, S., Goodale, J. G., Wijting, J. P., & Smith, P. C. (1971). Development of the survey of work values. *Journal of Applied Psychology*, 55, 331-338.

Table 1

*Classification of fit operationalizations in described studies*

| Authors              | P-O fit operationalization  | Classification |
|----------------------|---|----------------|
| Meglino, Ravlin &    | Employee value congruence: $r$ between employees' self-ratings of (CEP) values and  | I, U, T        |
| Adkins (1989)        | employees' perception of the value of management  |                |
|                      | Employee value congruence: $r$ between employees' self-ratings of (CEP) values and supervisors' reports of their own (CEP) values                       | I, M, T        |
|                      | Employee value congruence: $r$ between employees' self-ratings of (CEP) values and supervisors' reports of their managers' (CEP) values                 | I, M, T        |
|                      | Employee value congruence: $r$ between employees' self-ratings of (CEP) values and aggregate of managers' reports of their own (CEP) values             | I, M, T        |
|                      | Employee value congruence: $r$ between employees' self-ratings of (CEP) values and aggregate of managers' perceptions of the (CEP) values of management | I, M, T        |
| Cable & Judge (1996) | Perceived P-O fit: Applicants responded to three questions similar to, "To what degree do   | D, U, T        |

|   |         |
|---|---------|
| you feel your values 'match' or fit this organization and the current employees in this organization" on a 5-point scale.   |         |
| Perceived values congruence: $r$ between applicants' perceptions of organizations' (OCP) values after interviewing with them and applicants' perceptions of their own (OCP) values.   | I, U, T |
| Cable & Judge (1997) Interviewer P-O fit evaluation: Interviewers responded to the question, "To what degree did this applicant match or fit your organization and the current employees in your organization," on a 5-point scale.       | D, U, O |
| Perceived values congruence: $r$ between interviewers' reports of applicants (OCP) values and interviewers' reports of their organization's (OCP) values.   | I, U, O |
| Judge & Cable (1997) Subjective P-O fit: Applicants responded to three questions similar to, "To what degree do you feel your values 'match' or fit this organization and the current employees in this organization" on a 7-point scale. | D, U, T |
| Objective P-O fit: $r$ between applicants' (OCP) culture preferences and the mean of other applicants' reports of the organization's culture as measured by the OCP.  | I, M, T |
| Actual values congruence: $r$ between applicants' reports of their own (OCP) values and   | I, M, T |

interviewers' reports of their organization's (OCP) values.

|                              |   |                        |
|------------------------------|---|------------------------|
| Cable & Parsons<br>(2001)    | P-O fit perceptions: Employees responded to two questions similar to, "To what degree do you feel your values 'match' or fit this organization and the current employees in this organization" on a 7-point scale.  | D, U, T                |
|                              | Pre-entry values congruence: $r$ between individuals' pre-entry (OCP) values and their perceptions of their organizations' (OCP) values.  | I, U, T                |
|                              | Post-entry values congruence: $r$ between employees' post-entry (OCP) values and their perceptions of their organizations' (OCP) values.  | I, U, T                |
| Dineen, Ash, & Noe<br>(2002) | Subjective P-O fit: Participants responded to the question, "Based on what you know, how well do you think the values of this organization reflect your own values", on a 7-point scale.<br><br>Objective P-O fit: $r$ between participants' (OCP) values and the average of experts' (OCP) value ratings of a fictitious organization. | D, U, T<br><br>I, M, T |

*Note.* D = direct, I = indirect; U = uni-source, M = multi-source; T = target-rater, O = other-rater

Table 2

*Mean correlations between P-O fit variables and personality traits*

| Variables                               | Mean  | SD   | 1     | 2    | 3    | 4    | 5    | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    |
|---|-------|------|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <u>P-O Fit</u>                          |       |      |       |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 1. General direct P-O fit               | 4.75  | 0.96 | (.65) |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 2. Specific direct P-O fit <sup>a</sup> | 4.86  | 1.18 | .20   |      |      |      |      |       |       |       |       |       |       |       |       |       |
| <u>Values</u>                           |       |      |       |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 3. Individuals' values <sup>a</sup>     | 5.32  | 1.17 | .13   | .24  |      |      |      |       |       |       |       |       |       |       |       |       |
| 4. "Others' values" <sup>a</sup>        | 4.56  | 1.12 | .21   | .18  | .16  |      |      |       |       |       |       |       |       |       |       |       |
| 5. College values <sup>a</sup>          | -0.01 | 0.19 | .02   | -.03 | -.03 |      |      |       |       |       |       |       |       |       |       |       |
| <u>Big Five</u>                         |       |      |       |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 6. Extraversion                         | 3.47  | 0.73 | .13   | .12  | .15  | .05  | .02  | (.88) |       |       |       |       |       |       |       |       |
| 7. Agreeableness                        | 4.03  | 0.52 | .09   | .17  | .25  | .10  | -.03 | .31   | (.81) |       |       |       |       |       |       |       |
| 8. Conscientiousness                    | 3.54  | 0.60 | .04   | .14  | .17  | .04  | -.03 | .04   | .25   | (.83) |       |       |       |       |       |       |
| 9. Emotional stability                  | 3.15  | 0.68 | .14   | .11  | .09  | .07  | .00  | .17   | .18   | .08   | (.84) |       |       |       |       |       |
| 10. Openness                            | 3.64  | 0.50 | -.01  | .13  | .21  | .00  | -.01 | .30   | .39   | .14   | .20   | (.76) |       |       |       |       |
| <u>Narrow-bandwidth traits</u>          |       |      |       |      |      |      |      |       |       |       |       |       |       |       |       |       |
| 11. Self-deception                      | 3.10  | 0.34 | .01   | .13  | .14  | .03  | .03  | .13   | .14   | .27   | .40   | .29   | (.62) |       |       |       |
| 12. Impression mgt                      | 3.18  | 0.46 | .02   | -.11 | -.12 | -.01 | .07  | .06   | -.27  | -.27  | -.27  | -.10  | -.36  | (.80) |       |       |
| 13. Locus of control                    | 3.47  | 0.47 | .14   | .11  | .15  | .07  | -.01 | .16   | .22   | .28   | .23   | .17   | .31   | -.22  | (.67) |       |
| 14. Cross-situational                   | 2.87  | 1.05 | -.16  | -.02 | .00  | .00  | -.02 | -.06  | -.06  | -.09  | -.11  | .01   | -.08  | .09   | -.04  | (.81) |

*Note.*  $N = 605$ ; for correlations not averaged, coefficient alpha reliabilities are provided on the diagonal in parentheses and  $|r| > .07$ ,  $p < .05$ ;  $|r| > .10$ ,  $p < .01$ .

<sup>a</sup>These variables have been averaged across 12 dimensions

Table 3

*Rotated factor matrix for dimension-specific P-O fit*

|               | Intrapersonal | Intellectual | Interpersonal |
|---------------|---------------|--------------|---------------|
| Knowledge     | .35           | <b>.59</b>   | .09           |
| Learning      | .28           | <b>.69</b>   | .13           |
| Artistic      | .04           | <b>.51</b>   | .29           |
| Multicultural | .14           | <b>.40</b>   | .39           |
| Leadership    | .28           | .19          | <b>.48</b>    |
| Interpersonal | .23           | .15          | <b>.69</b>    |
| Citizenship   | .36           | .19          | <b>.41</b>    |
| Health        | <b>.46</b>    | .07          | .15           |
| Career        | <b>.51</b>    | .19          | .15           |
| Adaptability  | <b>.51</b>    | .18          | .34           |
| Perseverance  | <b>.68</b>    | .24          | .13           |
| Ethics        | <b>.56</b>    | .18          | .26           |

*Note.*  $N = 613$ , principal axis factoring, varimax rotation



Table 4

*Testing conceptual models for uni-source indirect P-O fit: correlations between difference scores and direct measures of P-O fit*

| $D^2$  | Know | CntLrn | Art  | Multi | Lead | Inter | Ctzn | Health | Career | Adapt | Persev | Ethics | GenDrct |
|--------|------|--------|------|-------|------|-------|------|--------|--------|-------|--------|--------|---------|
| Know   | -.12 | -.09   | -.05 | -.15  | -.02 | -.05  | -.08 | -.05   | -.09   | -.04  | -.12   | -.11   | -.14    |
| CntLrn | -.11 | -.12   | -.06 | -.08  | -.03 | -.01  | -.08 | -.04   | -.03   | .05   | -.04   | -.12   | -.20    |
| Art    | -.09 | -.19   | -.23 | -.13  | -.05 | -.12  | -.03 | -.01   | -.03   | -.04  | -.03   | -.08   | -.19    |
| Multi  | -.12 | -.12   | -.15 | -.20  | -.04 | -.11  | -.09 | -.10   | -.02   | -.11  | -.10   | -.10   | -.15    |
| Lead   | -.17 | -.14   | -.03 | -.06  | -.15 | -.05  | -.12 | -.17   | -.03   | -.11  | -.09   | -.09   | -.11    |
| Inter  | -.02 | -.08   | -.07 | -.05  | -.02 | -.09  | -.03 | -.11   | .00    | -.05  | -.11   | .00    | -.22    |
| Ctzn   | -.07 | -.03   | -.01 | -.01  | .01  | -.05  | -.12 | -.14   | -.03   | -.03  | -.08   | -.04   | -.06    |
| Health | -.03 | -.08   | -.07 | -.07  | -.04 | -.06  | -.07 | -.12   | -.04   | -.07  | -.10   | -.12   | -.14    |
| Career | -.10 | -.11   | -.08 | -.03  | -.01 | .01   | -.03 | -.07   | -.11   | .03   | -.05   | -.10   | -.20    |
| Adapt  | -.10 | -.13   | -.06 | -.08  | -.03 | -.12  | -.08 | -.12   | -.07   | -.19  | -.17   | -.10   | -.14    |
| Persev | -.13 | -.12   | -.08 | -.11  | -.02 | .02   | .01  | -.08   | -.09   | .02   | -.08   | -.13   | -.21    |
| Ethics | -.07 | -.12   | -.07 | -.08  | -.02 | -.04  | -.04 | -.07   | -.12   | -.02  | -.11   | -.21   | -.18    |
| $ D $  |      |        |      |       |      |       |      |        |        |       |        |        |         |
| Know   | -.14 | -.13   | -.08 | -.16  | -.06 | -.07  | -.09 | -.06   | -.09   | -.05  | -.13   | -.11   | -.13    |
| CntLrn | -.09 | -.12   | -.07 | -.11  | -.04 | -.02  | -.09 | -.03   | -.02   | .02   | -.04   | -.11   | -.18    |
| Art    | -.08 | -.17   | -.19 | -.11  | -.05 | -.12  | -.03 | -.02   | -.03   | -.04  | -.03   | -.08   | -.18    |
| Multi  | -.11 | -.10   | -.12 | -.20  | -.02 | -.10  | -.08 | -.12   | -.02   | -.12  | -.11   | -.11   | -.16    |
| Lead   | -.17 | -.13   | -.04 | -.07  | -.15 | -.06  | -.11 | -.15   | -.02   | -.11  | -.09   | -.10   | -.11    |
| Inter  | .00  | -.08   | -.06 | -.06  | .01  | -.07  | -.01 | -.11   | .03    | -.05  | -.08   | .02    | -.20    |
| Ctzn   | -.07 | -.03   | -.03 | -.03  | .02  | -.06  | -.12 | -.11   | -.02   | -.03  | -.07   | -.02   | -.07    |
| Health | -.04 | -.07   | -.09 | -.06  | -.05 | -.04  | -.08 | -.14   | -.05   | -.06  | -.11   | -.14   | -.15    |
| Career | -.10 | -.08   | -.06 | -.05  | -.01 | .01   | -.04 | -.07   | -.12   | .00   | -.05   | -.09   | -.18    |
| Adapt  | -.10 | -.11   | -.06 | -.08  | -.02 | -.11  | -.07 | -.09   | -.06   | -.17  | -.16   | -.07   | -.15    |
| Persev | -.14 | -.11   | -.06 | -.10  | -.01 | .05   | .02  | -.08   | -.05   | .02   | -.04   | -.10   | -.19    |
| Ethics | -.07 | -.11   | -.07 | -.09  | -.02 | -.03  | -.02 | -.09   | -.08   | -.03  | -.11   | -.19   | -.17    |



Table 5

*Regressing dimension-specific and general direct P-O fit measures on successive uni-source indirect P-O fit equations*

| Criterion               | Dimension     | Step 1 $R^2$ |      | Step 2 $\Delta R^2$  |      | Step 2      |                  | Step 3 $\Delta R^2$ |  |
|-------------------------|---------------|--------------|------|----------------------|------|-------------|------------------|---------------------|--|
|                         |               | $D^2$        | $p$  | $X, Y, XY, X^2, Y^2$ | $p$  | Total $R^2$ | $XY^2, X^3, Y^3$ | $p$                 |  |
| Specific Direct P-O Fit | Knowledge     | .014         | .004 | .220                 | .000 | .234        | .006             | .194                |  |
|                         | Learning      | .015         | .002 | .205                 | .000 | .220        | .004             | .365                |  |
|                         | Artistic      | .054         | .000 | .436                 | .000 | .490        | .005             | .140                |  |
|                         | Multicultural | .040         | .000 | .287                 | .000 | .327        | .002             | .650                |  |
|                         | Leadership    | .024         | .000 | .303                 | .000 | .327        | .003             | .412                |  |
|                         | Interpersonal | .008         | .031 | .259                 | .000 | .267        | .001             | .856                |  |
|                         | Citizenship   | .015         | .002 | .255                 | .000 | .270        | .006             | .163                |  |
|                         | Health        | .015         | .002 | .181                 | .000 | .196        | .005             | .314                |  |
|                         | Career        | .012         | .007 | .229                 | .000 | .241        | .007             | .113                |  |
|                         | Adaptability  | .036         | .000 | .222                 | .000 | .258        | .009             | .065                |  |
|                         | Perseverance  | .006         | .057 | .191                 | .000 | .197        | .015             | .009                |  |
|                         | Ethics        | .046         | .000 | .225                 | .000 | .271        | .008             | .096                |  |

| General Direct P-O Fit | Knowledge | .019 | .001 | .068 | .000 | .087 | .012 | .040 |
|------------------------|-----------|------|------|------|------|------|------|------|
| Learning               |           | .040 | .000 | .064 | .000 | .104 | .003 | .636 |
| Artistic               |           | .035 | .000 | .050 | .000 | .085 | .007 | .228 |
| Multicultural          |           | .021 | .000 | .060 | .000 | .081 | .017 | .012 |
| Leadership             |           | .011 | .009 | .044 | .000 | .055 | .002 | .745 |
| Interpersonal          |           | .049 | .000 | .045 | .000 | .094 | .003 | .572 |
| Citizenship            |           | .004 | .136 | .043 | .000 | .047 | .005 | .387 |
| Health                 |           | .020 | .000 | .026 | .003 | .046 | .002 | .696 |
| Career                 |           | .041 | .000 | .029 | .001 | .070 | .011 | .073 |
| Adaptability           |           | .019 | .001 | .072 | .000 | .091 | .005 | .374 |
| Perseverance           |           | .043 | .000 | .042 | .000 | .085 | .005 | .337 |
| Ethics                 |           | .032 | .000 | .073 | .000 | .105 | .007 | .187 |

∞ *Note.* Step 1  $df = 1, 611$ ; Step 2  $df = 4, 607$ ; Step 3  $df = 3, 605$

Table 6

*Regressing direct P-O fit: Beta weights for unconstrained D<sup>2</sup> equation*

| Criterion               | Dimension     | Component                        | $\beta$ |
|-------------------------|---------------|----------------------------------|---------|
| Specific Direct P-O fit | Knowledge     | Individual's Values              | 0.36**  |
|                         |               | Others' Values                   | 0.21**  |
|                         |               | Individual's Values <sup>2</sup> | -0.08*  |
|                         |               | Others' Values <sup>2</sup>      | -0.01   |
|                         |               | Indiv. Values X Other Values     | 0.04    |
|                         | Learning      | Individual's Values              | 0.37**  |
|                         |               | Others' Values                   | 0.18**  |
|                         |               | Individual's Values <sup>2</sup> | -0.09*  |
|                         |               | Others' Values <sup>2</sup>      | 0.00    |
|                         |               | Indiv. Values X Other Values     | 0.07    |
|                         | Artistic      | Individual's Values              | 0.60**  |
|                         |               | Others' Values                   | 0.20**  |
|                         |               | Individual's Values <sup>2</sup> | -0.08*  |
|                         |               | Others' Values <sup>2</sup>      | -0.09** |
|                         |               | Indiv. Values X Other Values     | 0.15**  |
|                         | Multicultural | Individual's Values              | 0.51**  |
|                         |               | Others' Values                   | 0.15**  |
|                         |               | Individual's Values <sup>2</sup> | -0.02   |
|                         |               | Others' Values <sup>2</sup>      | -0.10** |
|                         |               | Indiv. Values X Other Values     | 0.06    |
|                         | Leadership    | Individual's Values              | 0.53**  |
|                         |               | Others' Values                   | 0.05    |
|                         |               | Individual's Values <sup>2</sup> | -0.07   |
|                         |               | Others' Values <sup>2</sup>      | -0.05   |
|                         |               | Indiv. Values X Other Values     | 0.06    |
|                         | Interpersonal | Individual's Values              | 0.49**  |
|                         |               | Others' Values                   | 0.10**  |
|                         |               | Individual's Values <sup>2</sup> | 0.02    |
|                         |               | Others' Values <sup>2</sup>      | 0.02    |
|                         |               | Indiv. Values X Other Values     | 0.03    |
|                         | Citizenship   | Individual's Values              | 0.46**  |
|                         |               | Others' Values                   | 0.15**  |
|                         |               | Individual's Values <sup>2</sup> | -0.02   |
|                         |               | Others' Values <sup>2</sup>      | -0.08*  |
|                         |               | Indiv. Values X Other Values     | 0.09*   |
|                         | Health        | Individual's Values              | 0.33**  |

|                        |              |                                  |         |
|------------------------|--------------|----------------------------------|---------|
| General Direct P-O fit | Career       | Others' Values                   | 0.20**  |
|                        |              | Individual's Values <sup>2</sup> | -0.06   |
|                        |              | Others' Values <sup>2</sup>      | -0.04   |
|                        |              | Indiv. Values X Other Values     | 0.05    |
|                        |              | Individual's Values              | 0.43**  |
|                        | Adaptability | Others' Values                   | 0.12**  |
|                        |              | Individual's Values <sup>2</sup> | -0.05   |
|                        |              | Others' Values <sup>2</sup>      | 0.02    |
|                        |              | Indiv. Values X Other Values     | 0.08*   |
|                        |              | Individual's Values              | 0.39**  |
|                        | Perseverance | Others' Values                   | 0.17**  |
|                        |              | Individual's Values <sup>2</sup> | -0.11** |
|                        |              | Others' Values <sup>2</sup>      | -0.05   |
|                        |              | Indiv. Values X Other Values     | 0.08*   |
|                        |              | Individual's Values              | 0.34**  |
|                        | Ethics       | Others' Values                   | 0.17**  |
|                        |              | Individual's Values <sup>2</sup> | -0.09*  |
|                        |              | Others' Values <sup>2</sup>      | 0.05    |
|                        |              | Indiv. Values X Other Values     | -0.03   |
|                        |              | Individual's Values              | 0.37**  |
| General Direct P-O fit | Knowledge    | Others' Values                   | 0.27**  |
|                        |              | Individual's Values <sup>2</sup> | -0.06   |
|                        |              | Others' Values <sup>2</sup>      | -0.07   |
|                        |              | Indiv. Values X Other Values     | 0.08*   |
|                        |              | Individual's Values              | 0.03    |
|                        | Learning     | Others' Values                   | 0.26**  |
|                        |              | Individual's Values <sup>2</sup> | -0.07   |
|                        |              | Others' Values <sup>2</sup>      | -0.05   |
|                        |              | Indiv. Values X Other Values     | 0.10*   |
|                        |              | Individual's Values              | 0.03    |
|                        | Artistic     | Others' Values                   | 0.23**  |
|                        |              | Individual's Values <sup>2</sup> | -0.16** |
|                        |              | Others' Values <sup>2</sup>      | 0.02    |
|                        |              | Indiv. Values X Other Values     | 0.16**  |
|                        |              | Individual's Values              | 0.00    |
|                        |              | Others' Values                   | 0.20**  |
|                        |              | Individual's Values <sup>2</sup> | -0.07   |
|                        |              | Others' Values <sup>2</sup>      | -0.18** |
|                        |              | Indiv. Values X Other Values     | 0.17**  |

|               |                                  |         |
|---------------|----------------------------------|---------|
| Multicultural | Individual's Values              | 0.05    |
|               | Others' Values                   | 0.19**  |
|               | Individual's Values <sup>2</sup> | -0.01   |
|               | Others' Values <sup>2</sup>      | -0.15** |
|               | Indiv. Values X Other Values     | 0.06    |
| Leadership    | Individual's Values              | 0.14**  |
|               | Others' Values                   | 0.13**  |
|               | Individual's Values <sup>2</sup> | -0.05   |
|               | Others' Values <sup>2</sup>      | -0.05   |
|               | Indiv. Values X Other Values     | 0.06    |
| Interpersonal | Individual's Values              | 0.14**  |
|               | Others' Values                   | 0.12**  |
|               | Individual's Values <sup>2</sup> | -0.12** |
|               | Others' Values <sup>2</sup>      | -0.09*  |
|               | Indiv. Values X Other Values     | 0.15**  |
| Citizenship   | Individual's Values              | 0.06    |
|               | Others' Values                   | 0.17**  |
|               | Individual's Values <sup>2</sup> | -0.07   |
|               | Others' Values <sup>2</sup>      | 0.03    |
|               | Indiv. Values X Other Values     | 0.05    |
| Health        | Individual's Values              | 0.15**  |
|               | Others' Values                   | 0.06    |
|               | Individual's Values <sup>2</sup> | -0.01   |
|               | Others' Values <sup>2</sup>      | -0.09*  |
|               | Indiv. Values X Other Values     | 0.13**  |
| Career        | Individual's Values              | 0.07    |
|               | Others' Values                   | 0.14**  |
|               | Individual's Values <sup>2</sup> | -0.07   |
|               | Others' Values <sup>2</sup>      | -0.14** |
|               | Indiv. Values X Other Values     | 0.17**  |
| Adaptability  | Individual's Values              | 0.09*   |
|               | Others' Values                   | 0.23**  |
|               | Individual's Values <sup>2</sup> | -0.06   |
|               | Others' Values <sup>2</sup>      | -0.07   |
|               | Indiv. Values X Other Values     | 0.06    |
| Perseverance  | Individual's Values              | 0.09*   |
|               | Others' Values                   | 0.15**  |
|               | Individual's Values <sup>2</sup> | -0.07   |
|               | Others' Values <sup>2</sup>      | -0.05   |

|        |                                  |         |
|--------|----------------------------------|---------|
| Ethics | Indiv. Values X Other Values     | 0.19**  |
|        | Individual's Values              | 0.09*   |
|        | Others' Values                   | 0.25**  |
|        | Individual's Values <sup>2</sup> | -0.05   |
|        | Others' Values <sup>2</sup>      | -0.11** |
|        | Indiv. Values X Other Values     | 0.07    |

---

*Note.* \* $p < .05$ ; \*\* $p < .01$ ;



Table 7

*Regressing dimension-specific and general direct P-O fit measures on successive multi-source indirect P-O fit equations*

| Criterion                  | Dimension     | Step 1 $R^2$ |      | Step 2 $\Delta R^2$ |      | Step 3 $\Delta R^2$ |      | Total $R^2$ |      |
|----------------------------|---------------|--------------|------|---------------------|------|---------------------|------|-------------|------|
|                            |               | $X-Y$        | $p$  | $X, Y$              | $p$  | $XY, X^2, Y^2$      | $p$  |             | $p$  |
| Specific Direct<br>P-O Fit | Knowledge     | .181         | .000 | .004                | .108 | .008                | .134 | .193        | .000 |
|                            | Learning      | .183         | .000 | .004                | .089 | .012                | .043 | .199        | .000 |
|                            | Artistic      | .419         | .000 | .016                | .000 | .013                | .005 | .448        | .000 |
|                            | Multicultural | .298         | .000 | .009                | .007 | .007                | .118 | .314        | .000 |
|                            | Leadership    | .302         | .000 | .005                | .040 | .004                | .353 | .311        | .000 |
|                            | Interpersonal | .261         | .000 | .000                | .652 | .002                | .675 | .263        | .000 |
|                            | Citizenship   | .259         | .000 | .008                | .015 | .003                | .564 | .270        | .000 |
|                            | Health        | .138         | .000 | .011                | .008 | .003                | .537 | .152        | .000 |
|                            | Career        | .222         | .000 | .003                | .129 | .008                | .122 | .233        | .000 |
|                            | Adaptability  | .207         | .000 | .007                | .027 | .009                | .090 | .223        | .000 |
| General Direct P-<br>O Fit | Perseverance  | .159         | .000 | .008                | .027 | .006                | .255 | .173        | .000 |
|                            | Ethics        | .171         | .000 | .177                | .042 | .007                | .188 | .355        | .000 |
|                            | Knowledge     | .011         | .017 | .004                | .134 | .005                | .409 | .020        | .055 |
|                            | Learning      | .009         | .030 | .002                | .281 | .019                | .016 | .030        | .006 |
|                            | Artistic      | .001         | .393 | .002                | .292 | .009                | .169 | .012        | .230 |
|                            | Multicultural | .007         | .055 | .000                | .978 | .005                | .449 | .012        | .276 |
|                            | Leadership    | .029         | .000 | .003                | .214 | .008                | .232 | .040        | .001 |
|                            | Interpersonal | .039         | .000 | .006                | .056 | .017                | .022 | .062        | .000 |
|                            | Citizenship   | .016         | .003 | .001                | .598 | .008                | .205 | .025        | .018 |
|                            | Health        | .028         | .000 | .002                | .297 | .003                | .638 | .033        | .003 |
|                            | Career        | .011         | .014 | .004                | .143 | .006                | .326 | .021        | .040 |

|              |      |      |      |      |      |      |      |      |
|--------------|------|------|------|------|------|------|------|------|
| Adaptability | .033 | .000 | .001 | .445 | .006 | .375 | .040 | .001 |
| Perseverance | .022 | .001 | .003 | .187 | .007 | .284 | .032 | .004 |
| Ethics       | .017 | .002 | .011 | .012 | .009 | .153 | .037 | .001 |

*Note.* Step 1  $df = 1, 543$ ; Step 2  $df = 1, 542$ ; Step 3  $df = 3, 539$

Table 8

Testing conceptual models of interest for multi-source indirect P-O fit: correlations between difference scores and direct measures of P-O fit

|                      | Know | CntLm | Art  | Multi | Lead | Inter | Ctzn | Health | Career | Adapt | Persev | Ethics | GenDrct |
|----------------------|------|-------|------|-------|------|-------|------|--------|--------|-------|--------|--------|---------|
| <u>D<sup>2</sup></u> |      |       |      |       |      |       |      |        |        |       |        |        |         |
| Know                 | -.19 | -.13  | -.10 | -.11  | -.07 | -.07  | -.10 | -.07   | -.17   | -.13  | -.09   | -.12   | -.07    |
| CntLm                | -.20 | -.21  | -.07 | -.07  | -.13 | -.12  | -.12 | -.07   | -.19   | -.10  | -.17   | -.22   | -.14    |
| Art                  | -.11 | -.13  | -.23 | -.15  | .00  | -.09  | .00  | .07    | -.05   | .02   | -.06   | -.08   | -.10    |
| Multi                | -.21 | -.23  | -.24 | -.29  | -.06 | -.09  | -.09 | -.03   | -.06   | -.09  | -.05   | -.12   | -.05    |
| Lead                 | -.15 | -.11  | .01  | -.13  | -.22 | -.08  | -.17 | -.17   | -.16   | -.08  | -.17   | -.10   | -.08    |
| Inter                | -.11 | -.12  | -.10 | -.10  | -.15 | -.14  | -.10 | -.11   | -.08   | -.03  | -.16   | -.09   | -.16    |
| Ctzn                 | -.16 | -.13  | -.05 | -.15  | -.09 | -.01  | -.15 | -.09   | -.07   | -.06  | -.09   | -.09   | -.06    |
| Health               | -.06 | -.10  | -.01 | -.04  | -.05 | -.12  | -.12 | -.20   | -.09   | -.12  | -.20   | -.15   | -.07    |
| Career               | -.12 | -.12  | -.05 | -.07  | -.08 | -.09  | -.14 | -.14   | -.18   | -.13  | -.14   | -.17   | -.09    |
| Adapt                | -.13 | -.17  | -.06 | -.04  | -.08 | -.14  | -.07 | -.12   | -.06   | -.20  | -.16   | -.08   | -.07    |
| Persev               | -.14 | -.15  | -.07 | -.06  | -.09 | -.04  | -.11 | -.12   | -.17   | -.10  | -.19   | -.19   | -.09    |
| Ethics               | -.09 | -.08  | -.06 | -.07  | -.09 | -.10  | -.11 | -.08   | -.10   | -.08  | -.14   | -.24   | -.10    |
| <u> D </u>           |      |       |      |       |      |       |      |        |        |       |        |        |         |
| Know                 | -.12 | -.07  | -.05 | -.06  | -.06 | -.06  | -.09 | -.08   | -.13   | -.11  | -.06   | -.08   | -.05    |
| CntLm                | -.12 | -.14  | -.01 | -.02  | -.12 | -.10  | -.11 | -.05   | -.14   | -.09  | -.11   | -.17   | -.10    |
| Art                  | -.09 | -.10  | -.16 | -.11  | .00  | -.08  | .01  | .06    | -.04   | .04   | -.04   | -.04   | -.08    |
| Multi                | -.16 | -.17  | -.19 | -.23  | -.03 | -.06  | -.07 | -.04   | -.04   | -.04  | -.02   | -.10   | -.05    |
| Lead                 | -.12 | -.08  | .02  | -.09  | -.15 | -.05  | -.12 | -.15   | -.11   | -.04  | -.13   | -.08   | -.06    |
| Inter                | -.04 | -.05  | -.04 | -.03  | -.08 | -.07  | -.05 | -.06   | -.03   | .04   | -.10   | -.02   | -.14    |
| Ctzn                 | -.08 | -.05  | .00  | -.08  | -.06 | .02   | -.09 | -.05   | -.02   | -.02  | -.04   | -.06   | -.03    |
| Health               | -.01 | -.06  | .02  | -.01  | -.04 | -.12  | -.09 | -.14   | -.04   | -.08  | -.15   | -.13   | -.04    |
| Career               | -.06 | -.06  | -.02 | -.03  | -.04 | -.03  | -.09 | -.11   | -.09   | -.06  | -.06   | -.10   | -.05    |
| Adapt                | -.10 | -.11  | .02  | .00   | -.04 | -.08  | -.03 | -.09   | -.02   | -.12  | -.10   | -.03   | -.04    |
| Persev               | -.08 | -.08  | -.04 | -.02  | -.06 | .00   | -.05 | -.13   | -.11   | -.07  | -.12   | -.13   | -.06    |
| Ethics               | -.08 | -.07  | -.01 | -.06  | -.09 | -.08  | -.08 | -.11   | -.07   | -.07  | -.12   | -.17   | -.10    |

| $\frac{X-Y}{\text{Know}}$ | .42 | .32 | .28 | .18 | .21 | .15 | .23 | .11 | .27 | .18 | .20 | .19 | .10 |
|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| CntLrn                    | .33 | .43 | .30 | .20 | .16 | .15 | .22 | .07 | .21 | .18 | .23 | .23 | .09 |
| Art                       | .21 | .21 | .65 | .30 | .07 | .16 | .17 | .01 | .12 | .09 | .16 | .20 | .04 |
| Multi                     | .24 | .24 | .40 | .55 | .16 | .20 | .23 | .03 | .16 | .19 | .19 | .23 | .08 |
| Lead                      | .22 | .18 | .21 | .26 | .55 | .32 | .38 | .19 | .27 | .22 | .23 | .23 | .17 |
| Inter                     | .24 | .20 | .25 | .29 | .29 | .51 | .34 | .16 | .21 | .28 | .26 | .27 | .20 |
| Ctzn                      | .24 | .21 | .23 | .25 | .29 | .24 | .51 | .15 | .26 | .16 | .29 | .29 | .13 |
| Health                    | .23 | .22 | .12 | .10 | .14 | .17 | .21 | .37 | .24 | .15 | .25 | .18 | .17 |
| Career                    | .24 | .20 | .12 | .15 | .21 | .23 | .24 | .22 | .47 | .23 | .29 | .22 | .11 |
| Adapt                     | .28 | .30 | .27 | .23 | .25 | .32 | .24 | .20 | .20 | .45 | .33 | .20 | .18 |
| Persev                    | .26 | .25 | .16 | .15 | .21 | .23 | .25 | .10 | .21 | .28 | .40 | .27 | .15 |
| Ethics                    | .20 | .25 | .23 | .20 | .22 | .24 | .29 | .16 | .20 | .21 | .31 | .41 | .13 |

Note. Listwise  $N = 613$ ;  $|r| > .07, p < .05$ ;  $|r| > .10, p < .01$

Table 9

*Regressing X and Y on dimension-specific and general direct P-O fit*

| Criterion               | Dimension     | $R^2$ | $p$  | $X$  | $p$  | $Y$   | $p$  |
|-------------------------|---------------|-------|------|------|------|-------|------|
| Specific Direct P-O Fit | Knowledge     | .184  | .000 | .429 | .000 | -.004 | .918 |
|                         | Learning      | .187  | .000 | .433 | .000 | .021  | .585 |
|                         | Artistic      | .435  | .000 | .659 | .000 | -.005 | .870 |
|                         | Multicultural | .307  | .000 | .554 | .000 | -.006 | .866 |
|                         | Leadership    | .307  | .000 | .555 | .000 | -.02  | .570 |
|                         | Interpersonal | .261  | .000 | .505 | .000 | -.065 | .079 |
|                         | Citizenship   | .267  | .000 | .517 | .000 | .004  | .906 |
|                         | Health        | .149  | .000 | .386 | .000 | .059  | .141 |
|                         | Career        | .225  | .000 | .473 | .000 | -.012 | .747 |
|                         | Adaptability  | .214  | .000 | .463 | .000 | .017  | .648 |
|                         | Perseverance  | .166  | .000 | .409 | .000 | .014  | .713 |
|                         | Ethics        | .177  | .000 | .421 | .000 | .012  | .763 |
| General Direct P-O Fit  | Knowledge     | .015  | .019 | .113 | .008 | .047  | .267 |
|                         | Learning      | .011  | .053 | .099 | .021 | .036  | .398 |
|                         | Artistic      | .003  | .398 | .047 | .276 | .037  | .388 |
|                         | Multicultural | .007  | .159 | .08  | .062 | -.016 | .701 |
|                         | Leadership    | .031  | .000 | .175 | .000 | .023  | .583 |
|                         | Interpersonal | .046  | .000 | .21  | .000 | .048  | .257 |
|                         | Citizenship   | .017  | .011 | .129 | .003 | .001  | .980 |
|                         | Health        | .030  | .000 | .173 | .000 | .023  | .589 |
|                         | Career        | .015  | .016 | .116 | .007 | .046  | .278 |
|                         | Adaptability  | .034  | .000 | .186 | .000 | .005  | .900 |
|                         | Perseverance  | .025  | .001 | .157 | .000 | .029  | .495 |
|                         | Ethics        | .029  | .000 | .149 | .000 | .085  | .046 |

*Note.*  $df = 2, 542$

Table 10

*Regressing dimension-specific and general direct P-O fit measures on X (Step 1) and X-Y (Step 2)*

| Criterion               | Dimension     | Step 1 $R^2$ |      | Step 2 $\Delta R^2$ |      |
|-------------------------|---------------|--------------|------|---------------------|------|
|                         |               | $X$          | $p$  | $X-Y$               | $p$  |
| Specific Direct P-O Fit | Knowledge     | .184         | .000 | .000                | .918 |
|                         | Learning      | .187         | .000 | .000                | .585 |
|                         | Artistic      | .435         | .000 | .000                | .870 |
|                         | Multicultural | .307         | .000 | .000                | .866 |
|                         | Leadership    | .307         | .000 | .000                | .570 |
|                         | Interpersonal | .257         | .000 | .004                | .079 |
|                         | Citizenship   | .267         | .000 | .000                | .906 |
|                         | Health        | .146         | .000 | .003                | .141 |
|                         | Career        | .225         | .000 | .000                | .747 |
|                         | Adaptability  | .214         | .000 | .000                | .648 |
|                         | Perseverance  | .166         | .000 | .000                | .713 |
|                         | Ethics        | .177         | .000 | .000                | .763 |
| General Direct P-O Fit  | Knowledge     | .012         | .009 | .002                | .267 |
|                         | Learning      | .009         | .023 | .001                | .398 |
|                         | Artistic      | .002         | .295 | .001                | .388 |
|                         | Multicultural | .006         | .060 | .000                | .701 |
|                         | Leadership    | .031         | .000 | .001                | .583 |
|                         | Interpersonal | .043         | .000 | .002                | .257 |
|                         | Citizenship   | .017         | .003 | .000                | .980 |
|                         | Health        | .029         | .000 | .001                | .589 |
|                         | Career        | .013         | .008 | .002                | .278 |
|                         | Adaptability  | .034         | .000 | .000                | .900 |
|                         | Perseverance  | .024         | .000 | .001                | .495 |
|                         | Ethics        | .022         | .001 | .007                | .046 |

*Note.* Step 1  $df = 1, 543$ ; Step 2  $df = 1, 542$

Table 11  
Correlations between uni-source indirect P-O fit components and direct P-O fit measures  
Direct P-O fit dimensions

| Variables                | Mean | SD   | Overall | Know | Learn | Art | Multi | Lead | Interp | Citizen | Health | Career | Adapt | Persev | Ethics |
|--------------------------|------|------|---------|------|-------|-----|-------|------|--------|---------|--------|--------|-------|--------|--------|
| <u>Individual Values</u> |      |      |         |      |       |     |       |      |        |         |        |        |       |        |        |
| 1. Knowledge             | 5.31 | 1.00 | .11     | .43  | .31   | .25 | .19   | .21  | .14    | .22     | .10    | .26    | .18   | .20    | .17    |
| 2. Learning              | 5.23 | 1.06 | .10     | .32  | .42   | .31 | .20   | .16  | .14    | .20     | .06    | .19    | .18   | .20    | .21    |
| 3. Artistic              | 4.64 | 1.59 | .05     | .21  | .22   | .65 | .31   | .08  | .16    | .14     | .02    | .10    | .11   | .15    | .22    |
| 4. Multicultural         | 5.30 | 1.35 | .08     | .23  | .23   | .40 | .53   | .15  | .19    | .21     | .02    | .14    | .19   | .18    | .23    |
| 5. Leadership            | 5.18 | 1.23 | .18     | .21  | .17   | .20 | .26   | .56  | .34    | .37     | .20    | .25    | .24   | .24    | .22    |
| 6. Interpersonal         | 5.68 | 1.02 | .21     | .23  | .19   | .25 | .29   | .29  | .50    | .33     | .16    | .22    | .27   | .25    | .27    |
| 7. Citizenship           | 5.13 | 1.23 | .12     | .27  | .20   | .23 | .26   | .30  | .24    | .49     | .13    | .25    | .17   | .27    | .27    |
| 8. Health                | 5.54 | 1.12 | .15     | .23  | .20   | .12 | .11   | .14  | .17    | .20     | .39    | .23    | .17   | .26    | .19    |
| 9. Career                | 5.33 | 1.14 | .11     | .24  | .19   | .11 | .12   | .20  | .22    | .23     | .22    | .47    | .23   | .28    | .20    |
| 10. Adaptability         | 5.43 | 1.04 | .17     | .27  | .29   | .26 | .21   | .26  | .30    | .24     | .22    | .20    | .46   | .34    | .20    |
| 11. Perseverance         | 5.46 | 1.03 | .14     | .27  | .24   | .15 | .16   | .21  | .21    | .26     | .13    | .21    | .30   | .41    | .25    |
| 12. Ethics               | 5.52 | 1.17 | .13     | .20  | .24   | .23 | .21   | .21  | .24    | .26     | .19    | .23    | .24   | .32    | .42    |
| <u>"Others Values"</u>   |      |      |         |      |       |     |       |      |        |         |        |        |       |        |        |
| 13. Knowledge            | 4.59 | 1.03 | .28     | .31  | .28   | .12 | .19   | .19  | .20    | .21     | .15    | .22    | .14   | .14    | .19    |
| 14. Learning             | 4.44 | 1.07 | .25     | .26  | .26   | .17 | .19   | .16  | .21    | .24     | .16    | .18    | .18   | .15    | .24    |
| 15. Artistic             | 4.09 | 1.18 | .20     | .19  | .24   | .33 | .22   | .11  | .20    | .13     | .07    | .12    | .20   | .14    | .16    |
| 16. Multicultural        | 4.60 | 1.20 | .24     | .15  | .16   | .19 | .29   | .13  | .21    | .17     | .14    | .17    | .18   | .17    | .26    |
| 17. Leadership           | 4.62 | 1.04 | .18     | .23  | .18   | .15 | .15   | .20  | .19    | .21     | .15    | .18    | .16   | .15    | .23    |
| 18. Interpersonal        | 5.05 | 1.11 | .19     | .10  | .08   | .10 | .07   | .10  | .23    | .14     | .14    | .10    | .23   | .13    | .17    |
| 19. Citizenship          | 4.31 | 1.20 | .19     | .19  | .15   | .12 | .15   | .22  | .22    | .28     | .18    | .20    | .20   | .18    | .20    |
| 20. Health               | 4.46 | 1.25 | .11     | .18  | .14   | .09 | .10   | .14  | .15    | .17     | .29    | .21    | .18   | .20    | .25    |

|                      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 21. Career           | 4.85 | 1.10 | .17  | .23  | .20  | .08  | .10  | .16  | .15  | .20  | .24  | .23  | .23  | .22  | .20  |
| 22. Adaptability     | 4.84 | 1.05 | .27  | .20  | .17  | .16  | .17  | .18  | .28  | .18  | .22  | .21  | .29  | .22  | .24  |
| 23. Perseverance     | 4.59 | 1.06 | .19  | .18  | .14  | .13  | .19  | .19  | .21  | .17  | .17  | .15  | .19  | .24  | .24  |
| 24. Ethics           | 4.33 | 1.23 | .28  | .09  | .14  | .13  | .16  | .12  | .15  | .15  | .14  | .13  | .15  | .16  | .33  |
| <u>XY</u>            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 25. Knowledge        | 0.28 | 1.32 | .04  | -.05 | -.02 | -.01 | .08  | -.06 | -.02 | .00  | -.01 | -.05 | -.03 | .04  | -.02 |
| 26. Learning         | 0.22 | 1.38 | .14  | -.01 | .01  | .02  | .04  | -.04 | -.02 | .03  | .04  | -.04 | -.08 | .00  | -.01 |
| 27. Artistic         | 0.41 | 2.16 | .09  | .05  | .08  | .05  | .05  | .08  | .04  | .04  | .02  | .03  | .07  | .01  | .03  |
| 28. Multicultural    | 0.34 | 1.79 | .02  | -.08 | -.08 | -.03 | -.04 | -.04 | .03  | .01  | .05  | -.03 | .06  | .03  | -.03 |
| 29. Leadership       | 0.33 | 1.35 | .02  | -.01 | .06  | .03  | -.04 | -.03 | -.03 | -.02 | -.01 | -.05 | .08  | -.01 | -.03 |
| 30. Interpersonal    | 0.30 | 1.21 | .11  | -.03 | .02  | .01  | .00  | -.07 | .03  | -.04 | .00  | -.05 | .02  | -.01 | -.08 |
| 31. Citizenship      | 0.42 | 1.80 | .02  | -.08 | -.07 | -.01 | -.10 | -.07 | .06  | -.03 | .03  | -.04 | .00  | .02  | -.02 |
| 32. Health           | 0.30 | 1.61 | .07  | -.07 | -.02 | .05  | .05  | -.01 | -.01 | -.04 | -.05 | -.04 | .00  | -.06 | .00  |
| 33. Career           | 0.32 | 1.41 | .09  | .00  | .00  | .02  | .00  | -.05 | -.02 | -.08 | -.06 | .01  | -.09 | -.04 | -.01 |
| 34. Adaptability     | 0.31 | 1.22 | .05  | -.04 | .02  | .00  | .05  | -.04 | .01  | -.02 | .01  | .02  | .05  | .03  | .00  |
| 35. Perseverance     | 0.24 | 1.14 | .19  | .05  | .04  | .02  | .07  | -.05 | -.04 | -.04 | -.06 | .04  | -.06 | -.01 | .03  |
| 36. Ethics           | 0.18 | 1.48 | .10  | -.01 | .06  | .03  | .03  | -.03 | -.04 | -.02 | .01  | .07  | .00  | .03  | .11  |
| <u>X<sup>2</sup></u> |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 37. Knowledge        | 1.01 | 1.74 | -.08 | -.19 | -.12 | -.07 | -.10 | -.06 | -.07 | -.09 | -.08 | -.16 | -.11 | -.08 | -.12 |
| 38. Learning         | 1.12 | 1.84 | -.15 | -.18 | -.19 | -.10 | -.06 | -.11 | -.09 | -.11 | -.05 | -.16 | -.07 | -.12 | -.21 |
| 39. Artistic         | 2.53 | 3.04 | -.10 | -.10 | -.14 | -.26 | -.14 | .01  | -.09 | .01  | .07  | -.02 | .04  | -.03 | -.08 |
| 40. Multicultural    | 1.81 | 2.84 | -.06 | -.20 | -.21 | -.24 | -.27 | -.06 | -.09 | -.06 | -.03 | -.05 | -.07 | -.05 | -.12 |
| 41. Leadership       | 1.50 | 2.06 | -.09 | -.15 | -.10 | .00  | -.11 | -.23 | -.08 | -.15 | -.16 | -.12 | -.08 | -.17 | -.10 |
| 42. Interpersonal    | 1.05 | 1.66 | -.15 | -.12 | -.14 | -.09 | -.12 | -.15 | -.15 | -.09 | -.12 | -.08 | -.05 | -.17 | -.13 |
| 43. Citizenship      | 1.50 | 2.19 | -.08 | -.19 | -.15 | -.06 | -.16 | -.11 | -.04 | -.18 | -.12 | -.10 | -.07 | -.10 | -.09 |
| 44. Health           | 1.25 | 1.77 | -.06 | -.07 | -.09 | -.03 | -.02 | -.06 | -.13 | -.09 | -.21 | -.12 | -.12 | -.19 | -.16 |
| 45. Career           | 1.30 | 1.82 | -.08 | -.13 | -.11 | -.04 | -.05 | -.06 | -.07 | -.12 | -.14 | -.17 | -.12 | -.13 | -.18 |
| 46. Adaptability     | 1.07 | 1.69 | -.09 | -.15 | -.18 | -.07 | -.04 | -.09 | -.13 | -.08 | -.13 | -.07 | -.21 | -.16 | -.09 |
| 47. Perseverance     | 1.06 | 1.73 | -.10 | -.16 | -.14 | -.08 | -.08 | -.09 | -.03 | -.10 | -.12 | -.17 | -.10 | -.19 | -.18 |
| 48. Ethics           | 1.37 | 2.24 | -.10 | -.09 | -.09 | -.08 | -.06 | -.09 | -.11 | -.09 | -.10 | -.10 | -.07 | -.14 | -.23 |
| <u>Y<sup>2</sup></u> |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |



|                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 49. Knowledge     | 1.06 | 1.74 | -.09 | -.08 | -.06 | -.03 | -.02 | -.06 | -.04 | -.03 | -.03 | -.06 | .00  | -.05 | -.09 |
| 50. Learning      | 1.14 | 1.73 | .00  | -.03 | -.01 | .01  | -.01 | .01  | .05  | .01  | .03  | .05  | .03  | .04  | -.01 |
| 51. Artistic      | 1.39 | 1.97 | -.12 | .03  | -.09 | -.06 | .01  | .04  | -.07 | -.01 | -.08 | .03  | -.01 | -.02 | .00  |
| 52. Multicultural | 1.43 | 2.14 | -.19 | -.12 | -.10 | -.04 | -.11 | -.07 | -.06 | -.07 | -.07 | -.02 | -.04 | -.09 | -.09 |
| 53. Leadership    | 1.08 | 1.66 | -.04 | -.13 | -.02 | -.01 | -.03 | -.04 | -.04 | -.05 | -.11 | .02  | .02  | .06  | -.08 |
| 54. Interpersonal | 1.22 | 1.57 | -.07 | .05  | .02  | -.01 | .03  | .00  | .05  | -.02 | -.07 | .01  | -.01 | -.03 | .02  |
| 55. Citizenship   | 1.45 | 1.90 | .01  | -.06 | -.01 | .03  | -.04 | .03  | .07  | -.08 | -.06 | -.01 | .03  | .02  | -.01 |
| 56. Health        | 1.57 | 2.19 | -.07 | -.09 | -.08 | -.01 | -.01 | -.03 | -.01 | -.08 | -.09 | -.02 | .00  | -.08 | -.05 |
| 57. Career        | 1.20 | 1.66 | -.12 | -.06 | -.07 | -.07 | -.01 | -.04 | .07  | -.07 | -.07 | .01  | .03  | -.01 | -.01 |
| 58. Adaptability  | 1.10 | 1.54 | -.09 | -.08 | -.02 | -.05 | -.03 | -.02 | -.07 | -.10 | -.07 | -.02 | -.05 | -.09 | -.09 |
| 59. Perseverance  | 1.11 | 1.71 | -.02 | -.01 | -.02 | -.04 | -.04 | -.01 | .03  | .06  | -.09 | .06  | .05  | .04  | -.02 |
| 60. Ethics        | 1.50 | 2.11 | -.10 | -.06 | -.06 | -.01 | -.07 | .01  | -.01 | -.01 | -.03 | -.02 | .05  | -.02 | -.01 |

*Note.* Listwise  $N = 613$ ; for  $|r| > .07$ ,  $p < .05$ ; for  $|r| > .10$ ,  $p < .01$

Table 12

*Hierarchical regression analyses predicting direct P-O fit from indirect P-O fit (Step 1) and personality traits (Step 2)*

| Criterion               | Dimension | Big Five                  |                                  |                                | Narrow traits                    |                     |                                |
|-------------------------|-----------|---------------------------|----------------------------------|--------------------------------|----------------------------------|---------------------|--------------------------------|
|                         |           | Step 1 <sup>a</sup> $R^2$ | Step 2 <sub>1</sub> $\Delta R^2$ | $\beta$ (Step 2 <sub>1</sub> ) | Step 2 <sub>2</sub> $\Delta R^2$ | Step 2 <sub>2</sub> | $\beta$ (Step 2 <sub>2</sub> ) |
| Specific-Direct P-O Fit | Know      | .232**                    | .021**                           |                                | .013*                            |                     |                                |
|                         |           |                           |                                  | Extra                          | -0.022                           | Self Dec            | 0.045                          |
|                         |           |                           |                                  | Agree                          | -0.042                           | Impr Mgt            | -0.073                         |
|                         |           |                           |                                  | Cons                           | 0.104**                          | LOC                 | 0.04                           |
|                         |           |                           |                                  | Emot                           | 0.058                            | Cross Sit           | -0.007                         |
|                         | Learn     |                           |                                  | Open                           | 0.088*                           |                     |                                |
|                         |           | .220**                    | .012                             |                                | .005                             |                     |                                |
|                         |           |                           |                                  | Extra                          | -0.007                           | Self Dec            | -0.022                         |
|                         |           |                           |                                  | Agree                          | -0.051                           | Impr Mgt            | -0.046                         |
|                         |           |                           |                                  | Cons                           | 0.104**                          | LOC                 | 0.014                          |
|                         | Art       |                           |                                  | Emot                           | 0.001                            | Cross Sit           | -0.049                         |
|                         |           | .493**                    | .019**                           | Open                           | 0.047                            |                     |                                |
|                         |           |                           |                                  |                                | .003                             |                     |                                |
|                         |           |                           |                                  | Extra                          | 0.061*                           | Self Dec            | 0.049                          |
|                         |           |                           |                                  | Agree                          | -0.052                           | Impr Mgt            | 0.028                          |
|                         |           |                           |                                  | Cons                           | 0.090**                          | LOC                 | 0.019                          |
|                         | Multi     |                           |                                  | Emot                           | -0.027                           | Cross Sit           | 0.023                          |
|                         |           |                           |                                  | Open                           | 0.088**                          |                     |                                |
|                         |           | .327**                    | .005                             |                                | .001                             |                     |                                |
|                         |           |                           |                                  | Extra                          | 0.055                            | Self Dec            | 0.009                          |
|                         |           |                           |                                  | Agree                          | 0.038                            | Impr Mgt            | 0.029                          |
|                         |           |                           |                                  | Cons                           | 0.015                            | LOC                 | 0.015                          |
|                         |           |                           |                                  | Emot                           | -0.009                           | Cross Sit           | -0.021                         |
|                         |           |                           |                                  | Open                           | -0.018                           |                     |                                |



| Criterion              | Dimension | Step 1 $R^2$ | Step 2 $\Delta R^2$ | <u>Big Five</u>     |                     | $\beta$ (Step 2 <sub>1</sub> ) | Step 2 $\Delta R^2$ | <u>Narrow traits</u> |           | $\beta$ (Step 2 <sub>2</sub> ) |
|------------------------|-----------|--------------|---------------------|---------------------|---------------------|--------------------------------|---------------------|----------------------|-----------|--------------------------------|
|                        |           |              |                     | Step 2 <sub>1</sub> | Step 2 <sub>2</sub> |                                |                     | Step 2 <sub>2</sub>  | Cross Sit |                                |
| Adapt                  |           | .258**       | .014*               | Agree               |                     | -0.004                         |                     | Impr Mgt             |           | -0.058                         |
|                        |           |              |                     | Cons                |                     | 0.084*                         |                     | LOC                  |           | -0.02                          |
|                        |           |              |                     | Emot                |                     | 0.019                          |                     | Cross Sit            |           | 0.003                          |
|                        |           |              |                     | Open                |                     | 0.037                          | .008                |                      |           |                                |
|                        | Adapt     |              |                     | Extra               |                     | 0.045                          |                     | Self Dec             |           | 0.057                          |
|                        |           |              |                     | Agree               |                     | 0.021                          |                     | Impr Mgt             |           | 0.002                          |
|                        |           |              |                     | Cons                |                     | 0.004                          |                     | LOC                  |           | 0.053                          |
|                        |           |              |                     |                     |                     |                                |                     |                      |           |                                |
| Persev                 |           | .196**       | .035**              | Emot                |                     | 0.085*                         |                     | Cross Sit            |           | 0.022                          |
|                        |           |              |                     | Open                |                     | 0.025                          | .022**              |                      |           |                                |
|                        |           |              |                     | Extra               |                     | -0.038                         |                     | Self Dec             |           | 0.077                          |
|                        |           |              |                     | Agree               |                     | 0.074                          |                     | Impr Mgt             |           | -0.103**                       |
| Ethics                 |           | .271**       | .020**              | Cons                |                     | 0.165**                        |                     | LOC                  |           | 0.009                          |
|                        |           |              |                     | Emot                |                     | 0.03                           |                     | Cross Sit            |           | 0.009                          |
|                        |           |              |                     | Open                |                     | -0.009                         | .015*               |                      |           |                                |
|                        |           |              |                     | Extra               |                     | -0.081*                        |                     | Self Dec             |           | 0.027                          |
| General-Direct P-O Fit | Know      | .087**       | .026**              | Agree               |                     | 0.126**                        |                     | Impr Mgt             |           | -0.118**                       |
|                        |           |              |                     | Cons                |                     | 0.001                          |                     | LOC                  |           | -0.03                          |
|                        |           |              |                     | Emot                |                     | 0.057                          |                     | Cross Sit            |           | 0.035                          |
|                        |           |              |                     | Open                |                     | 0.018                          | .035**              |                      |           |                                |
|                        |           |              |                     | Extra               |                     | 0.099*                         |                     | Self Dec             |           | -0.044                         |
|                        |           |              |                     | Agree               |                     | 0.029                          |                     | Impr Mgt             |           | 0.038                          |
|                        |           |              |                     | Cons                |                     | 0.01                           |                     | LOC                  |           | 0.125**                        |

| Criterion | Dimension | Big Five                  |                                  |                                | Narrow traits                    |                                |          |
|-----------|-----------|---------------------------|----------------------------------|--------------------------------|----------------------------------|--------------------------------|----------|
|           |           | Step 1 <sup>a</sup> $R^2$ | Step 2 <sub>1</sub> $\Delta R^2$ | $\beta$ (Step 2 <sub>1</sub> ) | Step 2 <sub>2</sub> $\Delta R^2$ | $\beta$ (Step 2 <sub>2</sub> ) |          |
| Learn     |           | .104**                    | .024**                           | Emot                           | 0.111**                          | Cross Sit                      | -0.148** |
|           |           |                           |                                  | Open                           | -0.076                           |                                |          |
|           |           |                           |                                  |                                | .029**                           |                                |          |
|           |           |                           |                                  | Extra                          | 0.109**                          | Self Dec                       | -0.055   |
|           |           |                           |                                  | Agree                          | 0.031                            | Impr Mgt                       | 0.046    |
| Art       |           | .085**                    | .031**                           | Cons                           | 0.008                            | LOC                            | 0.118**  |
|           |           |                           |                                  | Emot                           | 0.092*                           | Cross Sit                      | -0.131** |
|           |           |                           |                                  | Open                           | -0.077                           |                                |          |
|           |           |                           |                                  |                                | .038**                           |                                |          |
|           |           |                           |                                  | Extra                          | 0.132**                          | Self Dec                       | -0.031   |
| Multi     |           | .081**                    | .030**                           | Agree                          | 0.051                            | Impr Mgt                       | 0.07     |
|           |           |                           |                                  | Cons                           | 0.027                            | LOC                            | 0.153**  |
|           |           |                           |                                  |                                |                                  |                                |          |
|           |           |                           |                                  |                                | .039**                           |                                |          |
|           |           |                           |                                  | Extra                          | 0.115**                          | Self Dec                       | -0.021   |
| Lead      |           | .056**                    | .022*                            | Agree                          | 0.039                            | Impr Mgt                       | 0.059    |
|           |           |                           |                                  | Cons                           | 0.029                            | LOC                            | 0.142**  |
|           |           |                           |                                  | Emot                           | 0.108**                          | Cross Sit                      | -0.144** |
|           |           |                           |                                  | Open                           | -0.086*                          |                                |          |
|           |           |                           |                                  |                                | .042**                           |                                |          |
|           |           |                           |                                  | Extra                          | 0.088                            | Self Dec                       | -0.053   |
|           |           |                           |                                  | Agree                          | 0.038                            | Impr Mgt                       | 0.061    |
|           |           |                           |                                  | Cons                           | 0.003                            | LOC                            | 0.125**  |
|           |           |                           |                                  | Emot                           | 0.105*                           | Cross Sit                      | -0.166** |
|           |           |                           |                                  | Open                           | -0.093*                          |                                |          |

| Interp | .094** | .015 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------|--------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|--------|--------|------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

|        |       |         |        |           |          |
|--------|-------|---------|--------|-----------|----------|
| Persev | Agree | 0.027   |        | Impr Mgt  | 0.049    |
|        | Cons  | -0.01   |        | LOC       | 0.141**  |
|        | Emot  | 0.097*  |        | Cross Sit | -0.158** |
|        | Open  | -0.086* | .032** |           |          |
| Ethics | Extra | 0.132** |        | Self Dec  | -0.045   |
|        | Agree | 0.032   |        | Impr Mgt  | 0.054    |
|        | Cons  | -0.012  |        | LOC       | 0.111**  |
|        | Emot  | 0.117** |        | Cross Sit | -0.147** |
|        | Open  | -0.098* | .037** |           |          |
|        | Extra | 0.128** |        | Self Dec  | -0.039   |
|        | Agree | -0.002  |        | Impr Mgt  | 0.069    |
|        | Cons  | 0.006   |        | LOC       | 0.127**  |
|        | Emot  | 0.107** |        | Cross Sit | -0.151** |
|        | Open  | -0.058  |        |           |          |

*Note.* <sup>a</sup>Step 1  $R^2$ 's are based on analyses conducted with the Big Five variables in the second step; <sup>b</sup>Step 2 analyses noted with a subscript 1 use the Big Five, Step 2 analyses noted with a subscript 2 use the narrow-bandwidth personality traits; For analyses using the Big Five, Step 1 df = 5, 606 and Step 2 df = 5, 601; For analyses using narrow-bandwidth traits, Step 1 df = 5, 599 and Step 2 df = 4, 595;

Abbreviations are as follow: Know = Knowledge, Learn = Learning, Art = Artistic, Multi = Multicultural, Lead = Leadership, Interp = Interpersonal, Citizen = Citizenship, Health = Health, Career = Career, Adapt = Adaptability, Persev = Perseverance, and Ethics = Ethics.

|        |       |         |                 |           |          |
|--------|-------|---------|-----------------|-----------|----------|
| Persev | Agree | 0.027   | .085*** .035*** | Impr Mgt  | 0.049    |
|        | Cons  | -0.01   |                 | LOC       | 0.141**  |
|        | Emot  | 0.097*  |                 | Cross Sit | -0.158** |
|        | Open  | -0.086* |                 |           |          |
| Ethics |       |         | .032**          |           |          |
|        | Extra | 0.132** |                 | Self Dec  | -0.045   |
|        | Agree | 0.032   |                 | Impr Mgt  | 0.054    |
|        | Cons  | -0.012  |                 | LOC       | 0.111**  |
|        | Emot  | 0.117** |                 | Cross Sit | -0.147** |
|        | Open  | -0.098* |                 |           |          |
|        |       |         | .037**          |           |          |
|        | Extra | 0.128** |                 | Self Dec  | -0.039   |
|        | Agree | -0.002  |                 | Impr Mgt  | 0.069    |
|        | Cons  | 0.006   |                 | LOC       | 0.127**  |
|        | Emot  | 0.107** |                 | Cross Sit | -0.151** |
|        | Open  | -0.058  |                 |           |          |

Note. <sup>a</sup>Step 1  $R^2$ 's are based on analyses conducted with the Big Five variables in the second step; <sup>b</sup>Step 2 analyses noted with a subscript 1 use the Big Five, Step 2 analyses noted with a subscript 2 use the narrow-bandwidth personality traits; For analyses using the Big Five, Step 1 df = 5,606 and Step 2 df = 5, 601; For analyses using narrow-bandwidth traits, Step 1 df = 5, 599 and Step 2 df = 4, 595;

Abbreviations are as follow: Know = Knowledge, Learn = Learning, Art = Artistic, Multi = Multicultural, Lead = Leadership, Interp = Interpersonal, Citizen = Citizenship, Health = Health, Career = Career, Adapt = Adaptability, Persev = Perseverance, and Ethics = Ethics.



## **Appendices**

Figure 1

*Illustration of good and bad fit for subjective and objective fit measures*

|                              | <u>Objective – good fit</u>                | <u>Objective – bad fit</u>             |
|------------------------------|--|--|
| <u>Subjective – good fit</u> | Good match                                 | Person thinks they fit but they do not |
| <u>Subjective – bad fit</u>  | Person does not think they fit but they do | Bad match                              |

## Appendix A

### *Twelve dimensions of college student success and their abbreviated labels*

#### **Knowledge, learning, mastery of general principles (Knowledge)**

Gaining knowledge and mastering facts, ideas and theories and how they interrelate, and the relevant contexts in which knowledge is developed and applied. Grades or GPA can indicate, but not guarantee, success on this dimension.

#### **Continuous learning, intellectual interest and curiosity (Learning)**

Being intellectually curious and interested in continuous learning. Actively seeking new ideas and new skills, both in core areas of study as well as in peripheral or novel areas.

#### **Artistic cultural appreciation and curiosity (Artistic)**

Appreciating art and culture, either at an expert level or simply at the level of one who is interested.

#### **Multicultural tolerance and appreciation (Multicultural)**

Showing openness, tolerance, and interest in a diversity of individuals (e.g., by culture, ethnicity, or gender). Actively participating in, contributing to, and influencing a multicultural environment.

#### **Leadership (Leadership)**

Demonstrating skills in a group, such as motivating others, coordinating groups and tasks, serving as a representative for the group, or otherwise performing a managing role in a group.

#### **Interpersonal skills (Interpersonal)**

Communicating and dealing well with others, whether in informal social situations or more formal school-related situations. Being aware of the social dynamics of a situation and responding appropriately.

#### **Social responsibility, citizenship and involvement (Citizenship)**

Being responsible to society and the community, and demonstrating good citizenship. Being actively involved in the events in one's surrounding community, which can be at the neighborhood, town/city, state, national, or college/university level. Activities may include volunteer work for the community, attending city council meetings, and voting.

#### **Physical and psychological health (Health)**

Possessing the physical and psychological health required to engage actively in a scholastic environment. This would include participating in healthy behaviors, such as eating properly, exercising regularly, and maintaining healthy personal and academic relations with others, as well as avoiding unhealthy behaviors, such as alcohol/drug abuse, unprotected sex, and ineffective or counterproductive coping behaviors.

#### **Career orientation (Career)**

Having a clear sense of career one aspires to enter into, which may happen before entry into college, or at any time while in college. Establishing, prioritizing, and following a set of general and specific career-related goals.

**Adaptability and life skills (Adaptability)**

Adapting to a changing environment (at school or home), dealing well with gradual or sudden and expected or unexpected changes. Being effective in planning one's everyday activities and dealing with novel problems and challenges in life.

**Perseverance (Perseverance)**

Committing oneself to goals and priorities set, regardless of the difficulties that stand in the way. Goals range from long-term goals (e.g., graduating from college) to short-term goals (e.g., showing up for class every day even when the class isn't interesting).

**Ethics and integrity (Ethics)**

Having a well-developed set of values, and behaving in ways consistent with those values. In everyday life, this probably means being honest, not cheating (on exams or in committed relationships), and having respect for others.

## Appendix B

### *Dimension-specific direct P-O fit measure*

For Questions 1 – 13, use the scale below to indicate how much your characteristics in each of the following dimensions ‘match’ or fit with MSU and other MSU students.

- a = very little
- b = not very much
- c = a little bit
- d = somewhat
- e = a good amount
- f = a great amount
- g = a tremendous amount

1. **Knowledge, learning, mastery of general principles:** Gaining knowledge and mastering facts, ideas and theories and how they interrelate, and the relevant contexts in which knowledge is developed and applied.
2. **Continuous learning, intellectual interest and curiosity:** Being intellectually curious and interested in continuous learning. Actively seeking new ideas and new skills, both in core areas of study as well as in peripheral or novel areas.
3. **Artistic cultural appreciation and curiosity:** Appreciating art and culture, either at an expert level or simply at the level of one who is interested.
4. **Multicultural tolerance and appreciation:** Showing openness, tolerance, and interest in a diversity of individuals (e.g., by culture, ethnicity, or gender). Actively participating in, contributing to, and influencing a multicultural environment.
5. **Leadership:** Demonstrating skills in a group, such as motivating others, coordinating groups and tasks, serving as a representative for the group, or otherwise performing a managing role in a group.
6. **Interpersonal skills:** Communicating and dealing well with others, whether in informal social situations or more formal school-related situations. Being aware of the social dynamics of a situation and responding appropriately.
7. **Social responsibility, citizenship and involvement:** Being responsible to society and the community, and demonstrating good citizenship. Being actively involved in the events in one's surrounding community, which can be at the neighborhood, town/city, state, national, or college/university level. Activities may include volunteer work for the community, attending city council meetings, and voting.
8. **Physical and psychological health:** Possessing the physical and psychological health required to engage actively in a scholastic environment. This would include participating in healthy behaviors, such as eating properly, exercising regularly, and maintaining healthy personal and academic relations with others, as well as avoiding unhealthy behaviors, such as alcohol/drug abuse, unprotected sex, and ineffective or counter-productive coping behaviors.
9. **Career orientation:** Having a clear sense of career one aspires to enter into, which may happen before entry into college, or at any time while in college. Establishing, prioritizing, and following a set of general and specific career-related goals.

**10. Adaptability and life skills:** Adapting to a changing environment (at school or home), dealing well with gradual or sudden and expected or unexpected changes. Being effective in planning one's everyday activities and dealing with novel problems and challenges in life.

**11. Perseverance:** Committing oneself to goals and priorities set, regardless of the difficulties that stand in the way. Goals range from long-term goals (e.g., graduating from college) to short-term goals (e.g., showing up for class every day even when the class isn't interesting).

**12. Ethics and integrity:** Having a well-developed set of values, and behaving in ways consistent with those values. In everyday life, this probably means being honest, not cheating (on exams or in committed relationships), and having respect for others.

## Appendix E

*Individual's report of how much of each characteristic they possess*

**For Questions 40 – 52, use the scale below to indicate how much of the described characteristics you possess.**

- a = very little
- b = not very much
- c = a little bit
- d = somewhat
- e = a good amount
- f = a great amount
- g = a tremendous amount

**40. Knowledge, learning, mastery of general principles:** Gaining knowledge and mastering facts, ideas and theories and how they interrelate, and the relevant contexts in which knowledge is developed and applied.

**41. Continuous learning, intellectual interest and curiosity:** Being intellectually curious and interested in continuous learning. Actively seeking new ideas and new skills, both in core areas of study as well as in peripheral or novel areas.

**42. Artistic cultural appreciation and curiosity:** Appreciating art and culture, either at an expert level or simply at the level of one who is interested.

**43. Multicultural tolerance and appreciation:** Showing openness, tolerance, and interest in a diversity of individuals (e.g., by culture, ethnicity, or gender). Actively participating in, contributing to, and influencing a multicultural environment.

**44. Leadership:** Demonstrating skills in a group, such as motivating others, coordinating groups and tasks, serving as a representative for the group, or otherwise performing a managing role in a group.

**45. Interpersonal skills:** Communicating and dealing well with others, whether in informal social situations or more formal school-related situations. Being aware of the social dynamics of a situation and responding appropriately.

**46. Social responsibility, citizenship and involvement:** Being responsible to society and the community, and demonstrating good citizenship. Being actively involved in the events in one's surrounding community, which can be at the neighborhood, town/city, state, national, or college/university level. Activities may include volunteer work for the community, attending city council meetings, and voting.

**47. Physical and psychological health:** Possessing the physical and psychological health required to engage actively in a scholastic environment. This would include participating in healthy behaviors, such as eating properly, exercising regularly, and maintaining healthy personal and academic relations with others, as well as avoiding unhealthy behaviors, such as alcohol/drug abuse, unprotected sex, and ineffective or counter-productive coping behaviors.

**48. Career orientation:** Having a clear sense of career one aspires to enter into, which may happen before entry into college, or at any time while in college. Establishing, prioritizing, and following a set of general and specific career-related goals.

**36. Adaptability and life skills:** Adapting to a changing environment (at school or home), dealing well with gradual or sudden and expected or unexpected changes. Being effective in planning one's everyday activities and dealing with novel problems and challenges in life.

**37. Perseverance:** Committing oneself to goals and priorities set, regardless of the difficulties that stand in the way. Goals range from long-term goals (e.g., graduating from college) to short-term goals (e.g., showing up for class every day even when the class isn't interesting).

**38. Ethics and integrity:** Having a well-developed set of values, and behaving in ways consistent with those values. In everyday life, this probably means being honest, not cheating (on exams or in committed relationships), and having respect for others.



## Appendix F

### *International Personality Item Pool— 50-item measure*

(Items are listed by construct but were randomized for administration.)

#### **Extraversion**

Don't talk a lot.  
Keep in the background.  
Have little to say.  
Don't like to draw attention to myself.  
Am quiet around strangers.  
Am the life of the party.  
Feel comfortable around people.  
Start conversations.  
Talk to a lot of different people at parties.  
Don't mind being the center of attention.

#### **Agreeableness**

Feel little concern for others.  
Insult people.  
Am not interested in other people's problems.  
Am not really interested in others.  
Am interested in people.  
Sympathize with others' feelings.  
Have a soft heart.  
Take time out for others.  
Feel others' emotions.  
Make people feel at ease.

#### **Conscientiousness**

Leave my belongings around.  
Make a mess of things.  
Often forget to put things back in their proper place.  
Shirk my duties.  
Am always prepared.  
Pay attention to details.  
Get chores done right away.  
Like order.  
Follow a schedule.  
Am exacting in my work.

**49. Adaptability and life skills:** Adapting to a changing environment (at school or home), dealing well with gradual or sudden and expected or unexpected changes. Being effective in planning one's everyday activities and dealing with novel problems and challenges in life.

**50. Perseverance:** Committing oneself to goals and priorities set, regardless of the difficulties that stand in the way. Goals range from long-term goals (e.g., graduating from college) to short-term goals (e.g., showing up for class every day even when the class isn't interesting).

**51. Ethics and integrity:** Having a well-developed set of values, and behaving in ways consistent with those values. In everyday life, this probably means being honest, not cheating (on exams or in committed relationships), and having respect for others.

### **Neuroticism/Emotional Stability**

Get stressed out easily.  
Worry about things.  
Am easily disturbed.  
Get upset easily.  
Change my mood a lot.  
Have frequent mood swings.  
Get irritated easily.  
Often feel blue.  
Am relaxed most of the time.  
Seldom feel blue.

### **Openness to Experience**

Have difficulty understanding abstract ideas.  
Am not interested in abstract ideas.  
Do not have a good imagination.  
Have a rich vocabulary.  
Have a vivid imagination.  
Have excellent ideas.  
Am quick to understand things.  
Use difficult words.  
Spend time reflecting on things.  
Am full of ideas.

## Appendix G

### *Self-deception and impression management*

**Please use the following response options for the 38 questions below.**

- 1 = Very true
- 2 = Mostly true
- 3 = Somewhat true
- 4 = Mostly untrue
- 5 = Very untrue

1. My first impressions of people usually turn out to be right.
2. It would be hard for me to break any of my bad habits.
3. I don't care to know what other people really think of me.
4. I have not always been honest with myself.
5. I always know why I like things.
6. When my emotions are aroused, it biases my thinking.
7. Once I've made up my mind, other people can seldom change my opinion.
8. I am not a safe driver when I exceed the speed limit.
9. I am fully in control of my own fate.
10. It's hard for me to shut off a disturbing thought.
11. I never regret my decisions.
12. I sometimes lose out on things because I can't make up my mind soon enough.
13. The reason I vote is because my vote can make a difference.
14. My parents were not always fair when they punished me.
15. I am a completely rational person.
16. I rarely appreciate criticism.
17. I am very confident of my judgments.
18. It's all right with me if some people happen to dislike me.
19. I don't always know the reasons why I do the things I do.
20. I sometimes tell lies if I have to.
21. I never cover up my mistakes.
22. There have been occasions when I have taken advantage of someone.
23. I never swear.
24. I sometimes try to get even rather than forgive and forget.
25. I always obey laws, even if I'm unlikely to get caught.
26. I have said something bad about a friend behind his or her back.
27. When I hear people talking privately, I avoid listening.
28. I have received too much change from a salesperson without telling him or her.
29. I always declare everything at customs.

**23. Adaptability and life skills:** Adapting to a changing environment (at school or home), dealing well with gradual or sudden and expected or unexpected changes. Being effective in planning one's everyday activities and dealing with novel problems and challenges in life.

**24. Perseverance:** Committing oneself to goals and priorities set, regardless of the difficulties that stand in the way. Goals range from long-term goals (e.g., graduating from college) to short-term goals (e.g., showing up for class every day even when the class isn't interesting).

**25. Ethics and integrity:** Having a well-developed set of values, and behaving in ways consistent with those values. In everyday life, this probably means being honest, not cheating (on exams or in committed relationships), and having respect for others.

- 30. When I was young I sometimes stole things.
- 31. I have never dropped litter on the street.
- 32. I sometimes drive faster than the speed limit.
- 33. I have done things that I don't tell other people about.
  
- 34. I never take things that don't belong to me.
- 35. I have taken sick-leave from work or school even though I wasn't really sick.
- 36. I have never damaged a library book or store merchandise without reporting it.
- 37. I have some pretty awful habits.
- 38. I don't gossip about other people's business.

**Scoring key for BIDR Version 6 - Form 40A, as edited for the current project**

**Self Deceptive Enhancement (SDE): Items 1 - 18**

Reverse scored items: 2,4,6,8,10,12,14,16,19.

**Impression Management(IM): Items 19 - 38**

Reverse scored items: 20,22,24,26,28,30,33,35,37.

## Appendix H

### *Locus of control*

*Note that items 4 and 11 were dropped from the scale because of low internal consistency with the other items.*

Indicate the degree to which you agree with the following items using the scale below.

- 1 = Strongly Agree
- 2 = Agree
- 3 = Neither Agree nor Disagree
- 4 = Disagree
- 5 = Strongly Disagree

1. Many of the unhappy things in people's lives are partly due to bad luck.
2. In the long run, people get the respect they deserve in this world.
3. The idea that teachers are unfair to students is nonsense.
4. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
5. The average citizen can have an influence in government decisions.
6. In my case, getting what I want has little or nothing to do with luck.
7. Who gets to be boss often depends on who was lucky enough to be in the right place first.
8. Most people don't realize the extent to which their lives are controlled by accidental happenings.
9. In the long run, the bad things that happen to us are balanced by the good ones.
10. Many times I feel that I have little influence over the things that happen to me.
11. What happens to me is my own doing.

Items 2, 5, 6, 7, 9, and 11 were reverse-scored

## Appendix I

### *Cross-situational variability*

**Indicate how much like you each of the following statements using the response options provided below:**

- a = Very much like me
- b = Rather like me
- c = Somewhat like me
- d = Somewhat unlike me
- e = Rather unlike me
- f = Very much unlike me

125. I tend to show different sides of myself to different people.

126. In different situations and with different people, I often act like very different persons.

127. Although I know myself, I find that others do not know me.

128. Different situations can make me behave like very different people.

129. Different people tend to have different impression about the type of person I am.

130. I am not always the person I appear to be.

131. I sometimes have the feeling that people don't know who I really am.



## Appendix J

*Descriptive statistics relevant to the appropriateness of aggregating individuals' values to college values*

|           | "You value..."<br>dimension | N  | Min | Max | Mean  | Std. Error | Std. Dev. |
|-----------|-----------------------------|----|-----|-----|-------|------------|-----------|
| College 1 | A                           | 44 | 3   | 7   | 5.091 | 0.141      | 0.936     |
|           | B                           | 44 | 3   | 7   | 5.045 | 0.159      | 1.056     |
|           | C                           | 44 | 1   | 7   | 4.295 | 0.257      | 1.706     |
|           | D                           | 44 | 1   | 7   | 5.000 | 0.234      | 1.555     |
|           | E                           | 44 | 1   | 7   | 5.114 | 0.190      | 1.262     |
|           | F                           | 44 | 4   | 7   | 5.455 | 0.136      | 0.901     |
|           | G                           | 44 | 2   | 7   | 4.955 | 0.178      | 1.180     |
|           | H                           | 44 | 2   | 7   | 5.523 | 0.191      | 1.267     |
|           | I                           | 44 | 3   | 7   | 5.023 | 0.188      | 1.248     |
|           | J                           | 44 | 4   | 7   | 5.318 | 0.141      | 0.934     |
|           | K                           | 44 | 4   | 7   | 5.273 | 0.143      | 0.949     |
|           | L                           | 44 | 3   | 7   | 5.250 | 0.169      | 1.123     |
| College 2 | A                           | 38 | 3   | 7   | 5.158 | 0.183      | 1.128     |
|           | B                           | 38 | 3   | 7   | 5.263 | 0.172      | 1.057     |
|           | C                           | 38 | 1   | 7   | 5.184 | 0.322      | 1.984     |
|           | D                           | 38 | 1   | 7   | 5.526 | 0.241      | 1.484     |
|           | E                           | 38 | 2   | 7   | 4.974 | 0.218      | 1.345     |
|           | F                           | 38 | 3   | 7   | 5.605 | 0.175      | 1.079     |
|           | G                           | 38 | 2   | 7   | 5.079 | 0.218      | 1.343     |
|           | H                           | 38 | 3   | 7   | 5.500 | 0.191      | 1.180     |
|           | I                           | 38 | 2   | 7   | 5.132 | 0.204      | 1.256     |
|           | J                           | 38 | 3   | 7   | 5.342 | 0.170      | 1.047     |
|           | K                           | 38 | 3   | 7   | 5.132 | 0.165      | 1.018     |
|           | L                           | 38 | 2   | 7   | 5.816 | 0.192      | 1.182     |
| College 3 | A                           | 99 | 1   | 7   | 5.323 | 0.096      | 0.956     |
|           | B                           | 99 | 2   | 7   | 5.192 | 0.101      | 1.007     |
|           | C                           | 99 | 1   | 7   | 4.434 | 0.164      | 1.630     |
|           | D                           | 99 | 1   | 7   | 5.101 | 0.145      | 1.439     |
|           | E                           | 99 | 2   | 7   | 5.394 | 0.114      | 1.132     |
|           | F                           | 99 | 4   | 7   | 5.758 | 0.094      | 0.938     |
|           | G                           | 99 | 1   | 7   | 4.970 | 0.123      | 1.224     |
|           | H                           | 99 | 2   | 7   | 5.545 | 0.118      | 1.172     |
|           | I                           | 99 | 2   | 7   | 5.364 | 0.107      | 1.064     |
|           | J                           | 99 | 2   | 7   | 5.495 | 0.100      | 0.994     |
|           | K                           | 99 | 2   | 7   | 5.434 | 0.105      | 1.042     |
|           | L                           | 99 | 1   | 7   | 5.374 | 0.133      | 1.322     |
| College 4 | A                           | 56 | 1   | 7   | 5.464 | 0.157      | 1.175     |
|           | B                           | 56 | 1   | 7   | 5.429 | 0.167      | 1.248     |
|           | C                           | 56 | 1   | 7   | 4.857 | 0.238      | 1.783     |
|           | D                           | 56 | 1   | 7   | 5.232 | 0.194      | 1.452     |
|           | E                           | 56 | 1   | 7   | 5.589 | 0.189      | 1.411     |
|           | F                           | 56 | 1   | 7   | 5.929 | 0.171      | 1.277     |

|           |   |    |   |   |       |       |       |
|-----------|---|----|---|---|-------|-------|-------|
| College 5 | G | 56 | 1 | 7 | 5.232 | 0.189 | 1.414 |
|           | H | 56 | 2 | 7 | 5.518 | 0.171 | 1.279 |
|           | I | 56 | 1 | 7 | 5.393 | 0.170 | 1.275 |
|           | J | 56 | 1 | 7 | 5.607 | 0.158 | 1.186 |
|           | K | 56 | 1 | 7 | 5.732 | 0.166 | 1.243 |
|           | L | 56 | 2 | 7 | 5.768 | 0.153 | 1.144 |
|           | A | 50 | 2 | 7 | 5.280 | 0.146 | 1.031 |
|           | B | 50 | 3 | 7 | 5.180 | 0.136 | 0.962 |
|           | C | 50 | 1 | 7 | 4.400 | 0.198 | 1.400 |
|           | D | 50 | 3 | 7 | 5.340 | 0.166 | 1.171 |
|           | E | 50 | 3 | 7 | 5.260 | 0.139 | 0.986 |
|           | F | 50 | 3 | 7 | 5.900 | 0.132 | 0.931 |
|           | G | 50 | 2 | 7 | 5.360 | 0.185 | 1.306 |
|           | H | 50 | 3 | 7 | 5.580 | 0.149 | 1.052 |
| College 6 | I | 50 | 3 | 7 | 5.540 | 0.154 | 1.092 |
|           | J | 50 | 1 | 7 | 5.520 | 0.183 | 1.297 |
|           | K | 50 | 3 | 7 | 5.540 | 0.160 | 1.129 |
|           | L | 50 | 4 | 7 | 5.600 | 0.146 | 1.030 |
|           | A | 55 | 2 | 7 | 5.218 | 0.159 | 1.182 |
|           | B | 55 | 1 | 7 | 5.218 | 0.161 | 1.197 |
|           | C | 55 | 1 | 7 | 4.255 | 0.231 | 1.713 |
|           | D | 55 | 1 | 7 | 5.000 | 0.191 | 1.414 |
|           | E | 55 | 3 | 7 | 5.055 | 0.171 | 1.268 |
|           | F | 55 | 3 | 7 | 5.618 | 0.128 | 0.952 |
|           | G | 55 | 1 | 7 | 4.745 | 0.198 | 1.468 |
|           | H | 55 | 3 | 7 | 5.564 | 0.149 | 1.102 |
|           | I | 55 | 2 | 7 | 5.109 | 0.183 | 1.356 |
|           | J | 55 | 3 | 7 | 5.455 | 0.134 | 0.997 |
| College 7 | K | 55 | 1 | 7 | 5.345 | 0.169 | 1.250 |
|           | L | 55 | 1 | 7 | 5.400 | 0.171 | 1.271 |
|           | A | 7  | 5 | 6 | 5.286 | 0.184 | 0.488 |
|           | B | 7  | 4 | 6 | 5.000 | 0.309 | 0.816 |
|           | C | 7  | 4 | 7 | 5.429 | 0.528 | 1.397 |
|           | D | 7  | 3 | 7 | 5.571 | 0.571 | 1.512 |
|           | E | 7  | 4 | 7 | 5.571 | 0.369 | 0.976 |
|           | F | 7  | 5 | 7 | 5.714 | 0.286 | 0.756 |
|           | G | 7  | 3 | 6 | 4.857 | 0.508 | 1.345 |
|           | H | 7  | 5 | 6 | 5.571 | 0.202 | 0.535 |
|           | I | 7  | 2 | 6 | 5.143 | 0.553 | 1.464 |
|           | J | 7  | 5 | 6 | 5.143 | 0.143 | 0.378 |
|           | K | 7  | 4 | 6 | 5.286 | 0.286 | 0.756 |
|           | L | 7  | 3 | 6 | 5.000 | 0.436 | 1.155 |
| College 8 | A | 39 | 3 | 7 | 5.410 | 0.141 | 0.880 |
|           | B | 39 | 4 | 7 | 5.359 | 0.145 | 0.903 |
|           | C | 39 | 1 | 7 | 4.923 | 0.209 | 1.306 |
|           | D | 39 | 3 | 7 | 5.333 | 0.157 | 0.982 |
|           | E | 39 | 2 | 7 | 5.103 | 0.183 | 1.142 |
|           | F | 39 | 2 | 7 | 5.462 | 0.187 | 1.166 |
|           | G | 39 | 3 | 7 | 5.308 | 0.152 | 0.950 |
|           | H | 39 | 4 | 7 | 5.513 | 0.146 | 0.914 |

|            |   |    |   |   |       |       |       |
|------------|---|----|---|---|-------|-------|-------|
|            | I | 39 | 4 | 7 | 5.564 | 0.146 | 0.912 |
|            | J | 39 | 4 | 7 | 5.333 | 0.148 | 0.927 |
|            | K | 39 | 4 | 7 | 5.359 | 0.135 | 0.843 |
|            | L | 39 | 3 | 7 | 5.513 | 0.155 | 0.970 |
| College 9  | - | -  | - | - | -     | -     | -     |
| College 10 | A | 51 | 4 | 7 | 5.471 | 0.126 | 0.902 |
|            | B | 51 | 3 | 7 | 5.235 | 0.155 | 1.106 |
|            | C | 51 | 1 | 7 | 4.588 | 0.202 | 1.445 |
|            | D | 51 | 1 | 7 | 5.255 | 0.188 | 1.339 |
|            | E | 51 | 2 | 7 | 5.118 | 0.189 | 1.351 |
|            | F | 51 | 2 | 7 | 5.686 | 0.149 | 1.068 |
|            | G | 51 | 3 | 7 | 5.078 | 0.177 | 1.262 |
|            | H | 51 | 4 | 7 | 5.765 | 0.133 | 0.951 |
|            | I | 51 | 3 | 7 | 5.510 | 0.162 | 1.155 |
|            | J | 51 | 4 | 7 | 5.431 | 0.123 | 0.878 |
|            | K | 51 | 3 | 7 | 5.667 | 0.136 | 0.973 |
|            | L | 51 | 3 | 7 | 5.745 | 0.134 | 0.956 |
| College 11 | - | -  | - | - | -     | -     | -     |
| College 12 | A | 19 | 4 | 6 | 4.947 | 0.143 | 0.621 |
|            | B | 19 | 3 | 7 | 5.105 | 0.186 | 0.809 |
|            | C | 19 | 2 | 7 | 4.105 | 0.350 | 1.524 |
|            | D | 19 | 2 | 7 | 5.421 | 0.369 | 1.610 |
|            | E | 19 | 3 | 7 | 4.789 | 0.260 | 1.134 |
|            | F | 19 | 4 | 7 | 5.789 | 0.249 | 1.084 |
|            | G | 19 | 3 | 7 | 5.368 | 0.244 | 1.065 |
|            | H | 19 | 4 | 7 | 5.789 | 0.196 | 0.855 |
|            | I | 19 | 3 | 7 | 5.263 | 0.227 | 0.991 |
|            | J | 19 | 3 | 7 | 5.368 | 0.244 | 1.065 |
|            | K | 19 | 4 | 7 | 5.789 | 0.196 | 0.855 |
|            | L | 19 | 3 | 7 | 5.368 | 0.267 | 1.165 |
| College 13 | A | 78 | 2 | 7 | 5.449 | 0.109 | 0.962 |
|            | B | 78 | 2 | 7 | 5.244 | 0.131 | 1.153 |
|            | C | 78 | 1 | 7 | 4.885 | 0.172 | 1.520 |
|            | D | 78 | 2 | 7 | 5.769 | 0.122 | 1.080 |
|            | E | 78 | 2 | 7 | 5.128 | 0.136 | 1.199 |
|            | F | 78 | 3 | 7 | 5.551 | 0.116 | 1.028 |
|            | G | 78 | 2 | 7 | 5.308 | 0.127 | 1.120 |
|            | H | 78 | 2 | 7 | 5.333 | 0.123 | 1.089 |
|            | I | 78 | 2 | 7 | 5.321 | 0.127 | 1.122 |
|            | J | 78 | 3 | 7 | 5.462 | 0.123 | 1.089 |
|            | K | 78 | 3 | 7 | 5.500 | 0.103 | 0.908 |
|            | L | 78 | 2 | 7 | 5.513 | 0.129 | 1.137 |
| College 14 | A | 9  | 4 | 6 | 4.889 | 0.200 | 0.601 |
|            | B | 9  | 4 | 6 | 5.000 | 0.236 | 0.707 |
|            | C | 9  | 3 | 6 | 4.667 | 0.408 | 1.225 |
|            | D | 9  | 4 | 6 | 5.000 | 0.289 | 0.866 |
|            | E | 9  | 3 | 6 | 4.778 | 0.324 | 0.972 |
|            | F | 9  | 4 | 6 | 5.333 | 0.236 | 0.707 |
|            | G | 9  | 3 | 6 | 4.778 | 0.324 | 0.972 |
|            | H | 9  | 3 | 6 | 5.000 | 0.333 | 1.000 |

|   |   |   |   |       |       |       |
|---|---|---|---|-------|-------|-------|
| I | 9 | 5 | 6 | 5.222 | 0.147 | 0.441 |
| J | 9 | 3 | 5 | 4.667 | 0.236 | 0.707 |
| K | 9 | 3 | 6 | 5.000 | 0.333 | 1.000 |
| L | 9 | 4 | 7 | 5.222 | 0.324 | 0.972 |

## Appendix K

*Sample size, means, standard deviations, and intercorrelations for all variables studied.*

All variables are presented below with *N*, means, and standard deviations. Variable numbers are used in the correlation matrix that follows.

| Variables                         | Mean | <i>SD</i> | <i>N</i> |
|-----------------------------------|------|-----------|----------|
| 1. Overall Direct P-O fit         | 4.75 | 0.96      | 605      |
| 2. Specific - Knowledge           | 4.93 | 0.87      | 605      |
| 3. Specific - Learning            | 4.85 | 1.00      | 605      |
| 4. Specific - Artistic            | 4.37 | 1.43      | 605      |
| 5. Specific - Multicultural       | 4.98 | 1.34      | 605      |
| 6. Specific - Leadership          | 4.67 | 1.20      | 605      |
| 7. Specific - Interpersonal       | 5.20 | 1.11      | 605      |
| 8. Specific - Citizenship         | 4.57 | 1.21      | 605      |
| 9. Specific - Health              | 4.85 | 1.23      | 605      |
| 10. Specific - Career             | 4.94 | 1.25      | 605      |
| 11. Specific - Adaptability       | 5.09 | 1.16      | 605      |
| 12. Specific - Perseverance       | 4.89 | 1.12      | 605      |
| 13. Specific - Ethics             | 4.93 | 1.24      | 605      |
| 14. Indiv. Values - Knowledge     | 5.32 | 1.01      | 605      |
| 15. Indiv. Values - Learning      | 5.23 | 1.06      | 605      |
| 16. Indiv. Values - Artistic      | 4.64 | 1.60      | 605      |
| 17. Indiv. Values - Multicultural | 5.31 | 1.34      | 605      |
| 18. Indiv. Values - Leadership    | 5.20 | 1.22      | 605      |
| 19. Indiv. Values - Interpersonal | 5.69 | 1.02      | 605      |
| 20. Indiv. Values - Citizenship   | 5.13 | 1.22      | 605      |
| 21. Indiv. Values - Health        | 5.55 | 1.12      | 605      |
| 22. Indiv. Values - Career        | 5.33 | 1.14      | 605      |
| 23. Indiv. Values - Adaptability  | 5.43 | 1.04      | 605      |
| 24. Indiv. Values - Perseverance  | 5.46 | 1.03      | 605      |
| 25. Indiv. Values - Ethics        | 5.52 | 1.18      | 605      |
| 26. Others Value - Knowledge      | 4.59 | 1.03      | 605      |
| 27. Others Value - Learning       | 4.44 | 1.07      | 605      |
| 28. Others Value - Artistic       | 4.09 | 1.18      | 605      |
| 29. Others Value - Multicultural  | 4.60 | 1.20      | 605      |
| 30. Others Value - Leadership     | 4.62 | 1.04      | 605      |
| 31. Others Value - Interpersonal  | 5.05 | 1.10      | 605      |
| 32. Others Value - Citizenship    | 4.31 | 1.19      | 605      |
| 33. Others Value - Health         | 4.46 | 1.26      | 605      |
| 34. Others Value - Career         | 4.85 | 1.10      | 605      |
| 35. Others Value - Adaptability   | 4.84 | 1.05      | 605      |
| 36. Others Value - Perseverance   | 4.59 | 1.05      | 605      |

|                                    |       |      |     |
|------------------------------------|-------|------|-----|
| 37. Others Value - Ethics          | 4.33  | 1.23 | 605 |
| 38. College Values - Knowledge     | 0.00  | 0.16 | 538 |
| 39. College Values - Learning      | 0.00  | 0.11 | 538 |
| 40. College Values - Artistic      | -0.02 | 0.33 | 538 |
| 41. College Values - Multicultural | -0.01 | 0.26 | 538 |
| 42. College Values - Leadership    | 0.02  | 0.21 | 538 |
| 43. College Values - Interpersonal | -0.01 | 0.17 | 538 |
| 44. College Values - Citizenship   | -0.02 | 0.21 | 538 |
| 45. College Values - Health        | -0.02 | 0.14 | 538 |
| 46. College Values - Career        | 0.00  | 0.17 | 538 |
| 47. College Values - Adaptability  | 0.00  | 0.16 | 538 |
| 48. College Values - Perseverance  | 0.00  | 0.19 | 538 |
| 49. College Values - Ethics        | 0.00  | 0.19 | 538 |
| 50. Extraversion                   | 3.47  | 0.73 | 605 |
| 51. Agreeableness                  | 4.03  | 0.52 | 605 |
| 52. Conscientiousness              | 3.54  | 0.60 | 605 |
| 53. Emotional Stability            | 3.15  | 0.68 | 605 |
| 54. Openness                       | 3.64  | 0.50 | 605 |
| 55. Self-deception                 | 3.10  | 0.34 | 605 |
| 56. Impression Management          | 3.18  | 0.46 | 605 |
| 57. Locus of control               | 3.47  | 0.47 | 605 |
| 58. Cross-situational              | 2.87  | 1.05 | 605 |

|    | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 2  | .25 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 3  | .28 | .56 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 4  | .22 | .30 | .39 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 5  | .21 | .26 | .32 | .43 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 6  | .15 | .29 | .31 | .20 | .27 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 7  | .25 | .25 | .28 | .27 | .31 | .45 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 8  | .20 | .29 | .26 | .23 | .27 | .39 | .39 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 9  | .19 | .21 | .21 | .10 | .13 | .23 | .22 | .22 |     |     |     |     |     |     |     |     |     |     |     |     |
| 10 | .15 | .35 | .27 | .15 | .22 | .24 | .25 | .31 | .30 |     |     |     |     |     |     |     |     |     |     |     |
| 11 | .17 | .29 | .34 | .20 | .32 | .32 | .45 | .28 | .29 | .37 |     |     |     |     |     |     |     |     |     |     |
| 12 | .16 | .37 | .37 | .21 | .23 | .30 | .25 | .37 | .29 | .39 | .50 |     |     |     |     |     |     |     |     |     |
| 13 | .23 | .29 | .28 | .25 | .31 | .26 | .32 | .37 | .38 | .34 | .38 | .49 |     |     |     |     |     |     |     |     |
| 14 | .11 | .43 | .31 | .25 | .19 | .22 | .14 | .22 | .10 | .26 | .18 | .20 | .17 |     |     |     |     |     |     |     |
| 15 | .10 | .33 | .42 | .31 | .20 | .16 | .14 | .20 | .06 | .19 | .18 | .20 | .21 | .65 |     |     |     |     |     |     |
| 16 | .06 | .21 | .22 | .66 | .31 | .08 | .17 | .14 | .02 | .10 | .11 | .15 | .22 | .32 | .43 |     |     |     |     |     |
| 17 | .09 | .23 | .24 | .40 | .53 | .15 | .18 | .20 | .02 | .14 | .20 | .19 | .24 | .32 | .35 | .56 |     |     |     |     |
| 18 | .18 | .21 | .17 | .20 | .25 | .56 | .33 | .36 | .20 | .26 | .24 | .24 | .22 | .27 | .27 | .23 | .30 |     |     |     |
| 19 | .22 | .22 | .19 | .25 | .28 | .28 | .50 | .32 | .17 | .22 | .28 | .25 | .28 | .26 | .30 | .29 | .37 | .53 |     |     |
| 20 | .12 | .26 | .20 | .23 | .26 | .29 | .24 | .48 | .14 | .26 | .17 | .27 | .28 | .31 | .34 | .29 | .36 | .42 | .43 |     |
| 21 | .15 | .22 | .20 | .12 | .11 | .13 | .17 | .19 | .39 | .24 | .17 | .26 | .20 | .27 | .27 | .18 | .13 | .24 | .34 | .35 |

|    |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |      |
|----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|
| 22 | .11 | .23  | .19  | .10  | .12  | .21  | .22  | .23  | .22  | .47  | .24  | .28  | .20  | .35  | .32  | .15  | .20  | .34  | .35 | .20  |
| 23 | .16 | .27  | .29  | .26  | .22  | .25  | .31  | .23  | .21  | .20  | .46  | .34  | .20  | .31  | .34  | .27  | .30  | .42  | .46 | .31  |
| 24 | .14 | .27  | .24  | .14  | .16  | .21  | .21  | .25  | .12  | .21  | .30  | .40  | .25  | .40  | .40  | .20  | .27  | .39  | .41 | .39  |
| 25 | .13 | .21  | .24  | .23  | .21  | .21  | .24  | .26  | .20  | .23  | .24  | .32  | .43  | .28  | .33  | .30  | .36  | .32  | .39 | .36  |
| 26 | .27 | .31  | .28  | .12  | .19  | .19  | .21  | .21  | .15  | .22  | .14  | .13  | .19  | .27  | .20  | .08  | .11  | .19  | .19 | .13  |
| 27 | .25 | .26  | .26  | .17  | .19  | .15  | .22  | .24  | .16  | .18  | .18  | .15  | .24  | .19  | .20  | .13  | .15  | .15  | .22 | .15  |
| 28 | .20 | .20  | .25  | .34  | .22  | .11  | .20  | .13  | .07  | .13  | .20  | .14  | .16  | .12  | .15  | .23  | .16  | .12  | .17 | .10  |
| 29 | .24 | .16  | .16  | .19  | .30  | .13  | .21  | .17  | .14  | .18  | .18  | .17  | .26  | .06  | .10  | .11  | .22  | .15  | .24 | .12  |
| 30 | .17 | .23  | .18  | .15  | .15  | .19  | .19  | .21  | .15  | .18  | .16  | .14  | .23  | .16  | .18  | .14  | .19  | .25  | .25 | .20  |
| 31 | .19 | .10  | .08  | .10  | .07  | .09  | .23  | .14  | .13  | .10  | .23  | .13  | .17  | .19  | .17  | .09  | .15  | .15  | .26 | .12  |
| 32 | .19 | .19  | .15  | .12  | .15  | .21  | .23  | .28  | .18  | .20  | .20  | .17  | .21  | .14  | .12  | .06  | .11  | .17  | .17 | .28  |
| 33 | .11 | .18  | .14  | .09  | .10  | .14  | .15  | .17  | .29  | .21  | .18  | .19  | .25  | .10  | .14  | .07  | .11  | .17  | .14 | .12  |
| 34 | .17 | .23  | .20  | .09  | .10  | .16  | .15  | .19  | .24  | .23  | .23  | .22  | .21  | .13  | .10  | .06  | .10  | .18  | .18 | .17  |
| 35 | .26 | .20  | .17  | .16  | .17  | .17  | .28  | .19  | .21  | .21  | .29  | .21  | .24  | .23  | .19  | .12  | .15  | .23  | .24 | .16  |
| 36 | .19 | .17  | .14  | .14  | .19  | .18  | .21  | .16  | .17  | .15  | .19  | .23  | .25  | .13  | .10  | .12  | .16  | .18  | .21 | .17  |
| 37 | .28 | .10  | .14  | .13  | .18  | .12  | .16  | .16  | .14  | .13  | .14  | .16  | .33  | .08  | .10  | .09  | .09  | .12  | .16 | .08  |
| 38 | .04 | -.02 | -.05 | -.12 | -.03 | -.01 | -.07 | -.05 | .00  | -.01 | .00  | -.02 | -.05 | -.04 | -.03 | -.08 | -.07 | .06  | .04 | -.05 |
| 39 | .03 | -.01 | -.01 | -.10 | -.04 | -.01 | -.02 | -.02 | .03  | .00  | .01  | -.03 | -.05 | -.03 | -.06 | -.09 | -.13 | .02  | .02 | -.05 |
| 40 | .04 | -.02 | -.02 | -.04 | .01  | -.06 | -.01 | -.03 | -.01 | -.03 | -.03 | -.04 | .02  | -.06 | -.04 | -.05 | -.05 | -.04 | .04 | .00  |



|    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 41 | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   |
| 42 | -.02 | -.06 | -.07 | -.05 | -.02 | -.08 | -.04 | -.01 | -.04 | .01  | -.03 | -.01 | .02  | -.02 | -.03 | -.03 | -.03 | -.06 | .00  | .01  |
| 43 | .03  | -.03 | -.03 | -.04 | -.03 | .00  | -.09 | -.09 | -.04 | -.07 | -.03 | -.06 | -.13 | -.06 | -.04 | -.03 | -.07 | .04  | .02  | -.08 |
| 44 | .03  | -.04 | -.03 | .00  | .01  | .02  | -.07 | .00  | -.03 | -.01 | -.03 | -.04 | -.13 | -.04 | -.04 | -.02 | -.08 | .08  | -.03 | -.07 |
| 45 | -.01 | -.01 | -.06 | -.05 | -.04 | -.08 | -.06 | -.02 | -.01 | -.02 | -.01 | -.05 | -.06 | .04  | .02  | -.02 | -.03 | -.01 | -.01 | -.05 |
| 46 | .01  | .01  | .00  | .01  | .00  | .04  | -.02 | .07  | .03  | -.02 | -.02 | -.02 | -.02 | -.04 | -.02 | .01  | -.04 | .04  | -.07 | -.04 |
| 47 | .04  | -.05 | -.04 | -.02 | -.02 | -.01 | -.04 | -.01 | .00  | -.04 | -.01 | -.07 | -.10 | -.01 | .00  | .00  | -.06 | .05  | .00  | -.08 |
| 48 | -.01 | -.01 | -.05 | -.06 | -.05 | .03  | -.06 | -.02 | -.01 | .03  | -.01 | .02  | -.04 | .03  | -.02 | -.04 | -.07 | .06  | -.01 | -.06 |
| 49 | .02  | -.05 | -.06 | -.08 | -.03 | -.04 | -.08 | .02  | -.01 | .00  | -.01 | -.02 | -.12 | -.03 | -.03 | -.06 | -.08 | .03  | -.05 | -.07 |
| 50 | .08  | .02  | .01  | -.05 | .02  | -.03 | -.03 | .00  | .03  | .07  | .00  | .00  | .00  | -.01 | .00  | -.03 | -.08 | .05  | .03  | .01  |
| 51 | .13  | .05  | .04  | .13  | .12  | .28  | .32  | .19  | .07  | .04  | .14  | .04  | .00  | .09  | .08  | .11  | .09  | .38  | .37  | .15  |
| 52 | .09  | .11  | .10  | .18  | .21  | .14  | .27  | .21  | .11  | .12  | .16  | .21  | .27  | .21  | .23  | .27  | .30  | .25  | .34  | .28  |
| 53 | .04  | .19  | .15  | .11  | .05  | .14  | .12  | .14  | .08  | .20  | .10  | .29  | .13  | .21  | .13  | .03  | .07  | .15  | .10  | .22  |
| 54 | .14  | .10  | .07  | .08  | .05  | .10  | .16  | .14  | .13  | .05  | .18  | .09  | .12  | .06  | .10  | .08  | .07  | .12  | .10  | .06  |
| 55 | -.01 | .17  | .15  | .32  | .12  | .11  | .19  | .11  | .02  | .07  | .14  | .10  | .09  | .26  | .32  | .39  | .22  | .20  | .21  | .15  |
| 56 | .01  | .15  | .09  | .12  | .03  | .12  | .17  | .14  | .07  | .18  | .15  | .19  | .11  | .18  | .19  | .12  | .07  | .16  | .15  | .11  |
| 57 | .02  | -.13 | -.10 | -.09 | -.03 | -.06 | -.09 | -.13 | -.10 | -.15 | -.05 | -.18 | -.21 | -.11 | -.14 | -.13 | -.11 | -.10 | -.04 | -.16 |
| 58 | .14  | .15  | .12  | .11  | .07  | .10  | .11  | .10  | .02  | .12  | .13  | .16  | .09  | .16  | .19  | .12  | .11  | .18  | .14  | .07  |
|    | -.16 | -.04 | -.09 | -.01 | -.02 | -.02 | -.06 | .03  | -.03 | -.03 | .01  | -.01 | .01  | -.03 | -.04 | .01  | .04  | .01  | .00  | -.02 |

|    | 21  | 22   | 23   | 24   | 25   | 26   | 27   | 28   | 29   | 30   | 31   | 32   | 33   | 34   | 35   | 36   | 37   | 38  | 39  |
|----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| 22 | .40 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |
| 23 | .35 | .40  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |
| 24 | .34 | .44  | .55  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |
| 25 | .33 | .35  | .35  | .43  |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |
| 26 | .12 | .18  | .17  | .11  | .12  |      |      |      |      |      |      |      |      |      |      |      |      |     |     |
| 27 | .14 | .22  | .19  | .17  | .16  | .71  |      |      |      |      |      |      |      |      |      |      |      |     |     |
| 28 | .10 | .09  | .24  | .12  | .10  | .43  | .52  |      |      |      |      |      |      |      |      |      |      |     |     |
| 29 | .11 | .12  | .18  | .14  | .21  | .29  | .34  | .47  |      |      |      |      |      |      |      |      |      |     |     |
| 30 | .17 | .17  | .20  | .16  | .20  | .34  | .42  | .37  | .40  |      |      |      |      |      |      |      |      |     |     |
| 31 | .16 | .18  | .24  | .25  | .23  | .29  | .30  | .28  | .37  | .49  |      |      |      |      |      |      |      |     |     |
| 32 | .17 | .20  | .20  | .14  | .17  | .36  | .35  | .32  | .31  | .45  | .41  |      |      |      |      |      |      |     |     |
| 33 | .21 | .19  | .20  | .16  | .20  | .24  | .24  | .24  | .21  | .34  | .29  | .37  |      |      |      |      |      |     |     |
| 34 | .16 | .26  | .23  | .18  | .16  | .36  | .38  | .26  | .24  | .39  | .32  | .37  | .43  |      |      |      |      |     |     |
| 35 | .17 | .18  | .28  | .26  | .20  | .40  | .37  | .30  | .31  | .35  | .45  | .37  | .38  | .47  |      |      |      |     |     |
| 36 | .11 | .16  | .19  | .21  | .18  | .46  | .52  | .37  | .36  | .45  | .39  | .40  | .37  | .51  | .53  |      |      |     |     |
| 37 | .07 | .09  | .14  | .06  | .13  | .39  | .40  | .34  | .35  | .36  | .25  | .39  | .34  | .34  | .43  | .48  |      |     |     |
| 38 | .04 | .01  | -.02 | -.03 | -.04 | -.03 | -.06 | -.05 | -.03 | -.09 | -.08 | -.12 | .01  | .03  | -.03 | .00  | .01  |     |     |
| 39 | .04 | -.02 | -.03 | -.04 | -.04 | -.06 | -.05 | -.02 | -.04 | -.01 | -.05 | -.01 | .01  | .02  | -.02 | -.02 | -.06 | .68 |     |
| 40 | .04 | -.01 | -.04 | -.01 | -.03 | -.06 | -.05 | -.04 | .01  | -.14 | -.09 | -.09 | -.05 | -.06 | -.09 | -.04 | -.04 | .45 | .50 |

|    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 41 | .05  | .03  | -.04 | .03  | .02  | -.07 | -.10 | -.09 | -.05 | -.12 | -.11 | -.08 | .00  | -.03 | -.07 | -.02 | -.01 | .39  | .28  |
| 42 | .00  | -.04 | -.02 | -.09 | -.09 | .02  | -.03 | .00  | -.05 | -.04 | -.02 | -.08 | -.05 | .03  | -.01 | -.06 | -.03 | .55  | .42  |
| 43 | -.05 | .01  | -.03 | -.08 | -.05 | .01  | -.03 | .01  | -.03 | .04  | .01  | .01  | -.02 | .07  | -.01 | -.07 | -.04 | .25  | .35  |
| 44 | .03  | .00  | -.01 | -.02 | -.02 | -.03 | -.08 | -.08 | -.10 | -.06 | -.07 | -.10 | -.02 | -.07 | -.07 | -.08 | -.03 | .36  | .41  |
| 45 | -.06 | -.01 | -.04 | -.08 | -.05 | .06  | .05  | .02  | .02  | .09  | .00  | .04  | -.01 | .03  | .02  | -.02 | .00  | .01  | .02  |
| 46 | -.01 | -.06 | .01  | -.07 | -.02 | -.04 | -.07 | -.03 | -.06 | -.04 | -.05 | -.13 | -.04 | -.03 | -.05 | -.07 | -.03 | .59  | .45  |
| 47 | .01  | .01  | -.06 | -.04 | .00  | .00  | -.04 | -.04 | -.05 | .06  | -.02 | .00  | .05  | .10  | .05  | .02  | -.02 | .54  | .53  |
| 48 | -.01 | .00  | -.05 | -.08 | -.08 | -.02 | -.08 | -.04 | -.10 | -.02 | -.03 | -.05 | -.02 | .04  | -.05 | -.06 | -.03 | .50  | .42  |
| 49 | .03  | .06  | -.03 | -.02 | -.02 | -.03 | -.03 | -.01 | .00  | .01  | -.04 | .03  | .01  | .02  | -.06 | -.03 | .01  | .46  | .70  |
| 50 | .03  | .12  | .17  | .10  | .10  | .07  | .08  | -.01 | .03  | .01  | .05  | .05  | .09  | .09  | .05  | .10  | .01  | .02  | .00  |
| 51 | .17  | .18  | .21  | .24  | .37  | .07  | .10  | .04  | .07  | .11  | .12  | .09  | .17  | .12  | .14  | .14  | .09  | -.04 | -.05 |
| 52 | .20  | .24  | .16  | .30  | .25  | .03  | .01  | .01  | -.01 | .06  | .03  | .07  | .07  | .10  | .11  | .06  | -.01 | -.04 | -.07 |
| 53 | .07  | .03  | .15  | .08  | .14  | .05  | .10  | .09  | .07  | .09  | .09  | .06  | .09  | .05  | .06  | .09  | .04  | -.01 | -.03 |
| 54 | .07  | .07  | .20  | .20  | .19  | -.03 | -.01 | .05  | -.03 | .04  | .03  | .00  | .04  | -.02 | -.01 | .00  | -.08 | -.01 | -.01 |
| 55 | .05  | .13  | .16  | .17  | .15  | .04  | .06  | .03  | -.04 | .06  | .03  | -.01 | .06  | .00  | .05  | .07  | .04  | .03  | .02  |
| 56 | -.09 | -.14 | -.03 | -.14 | -.26 | .02  | .00  | -.02 | .01  | -.03 | .04  | -.05 | -.08 | .02  | -.01 | .00  | .01  | .10  | .13  |
| 57 | .08  | .18  | .13  | .24  | .19  | .08  | .13  | .03  | .02  | .09  | .11  | .03  | .06  | .05  | .05  | .10  | .04  | -.01 | .01  |
| 58 | -.04 | -.03 | .05  | .00  | .02  | -.03 | -.04 | .00  | .00  | .02  | .04  | .00  | .00  | -.01 | -.01 | -.02 | .00  | -.04 | .00  |

|    | 40   | 41   | 42   | 43   | 44   | 45   | 46   | 47  | 48   | 49   | 50   | 51   | 52   | 53   | 54   | 55   | 56   | 57   | 58 |
|----|------|------|------|------|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|----|
| 41 | .66  |      |      |      |      |      |      |     |      |      |      |      |      |      |      |      |      |      |    |
| 42 | .15  | -.13 |      |      |      |      |      |     |      |      |      |      |      |      |      |      |      |      |    |
| 43 | -.14 | -.06 | .64  |      |      |      |      |     |      |      |      |      |      |      |      |      |      |      |    |
| 44 | .33  | .68  | .08  | .27  |      |      |      |     |      |      |      |      |      |      |      |      |      |      |    |
| 45 | -.38 | -.30 | .04  | .44  | -.02 |      |      |     |      |      |      |      |      |      |      |      |      |      |    |
| 46 | .13  | .20  | .31  | .40  | .59  | .22  |      |     |      |      |      |      |      |      |      |      |      |      |    |
| 47 | -.09 | .11  | .56  | .67  | .32  | .35  | .30  |     |      |      |      |      |      |      |      |      |      |      |    |
| 48 | -.13 | .17  | .41  | .68  | .52  | .47  | .55  | .63 |      |      |      |      |      |      |      |      |      |      |    |
| 49 | .45  | .35  | .12  | .39  | .46  | .20  | .41  | .39 | .39  |      |      |      |      |      |      |      |      |      |    |
| 50 | -.02 | -.03 | .04  | .07  | .03  | -.02 | .07  | .00 | .03  | .01  |      |      |      |      |      |      |      |      |    |
| 51 | -.06 | .02  | -.06 | .00  | -.04 | -.06 | -.04 | .00 | -.01 | -.05 | .31  |      |      |      |      |      |      |      |    |
| 52 | -.03 | .05  | -.08 | -.05 | -.02 | .01  | -.09 | .03 | -.03 | -.05 | .04  | .25  |      |      |      |      |      |      |    |
| 53 | -.03 | .00  | -.07 | -.02 | .03  | .07  | .02  | .01 | .01  | .00  | .17  | .18  | .08  |      |      |      |      |      |    |
| 54 | -.04 | -.05 | -.01 | .02  | -.03 | .00  | .05  | .01 | -.03 | -.01 | .30  | .39  | .14  | .20  |      |      |      |      |    |
| 55 | -.03 | .02  | -.01 | .01  | .06  | .04  | .05  | .07 | .06  | .01  | .13  | .14  | .27  | .40  | .29  |      |      |      |    |
| 56 | .12  | .04  | .11  | .07  | .05  | -.07 | .08  | .02 | .03  | .10  | .06  | -.27 | -.27 | -.27 | -.10 | -.36 |      |      |    |
| 57 | -.02 | -.02 | -.01 | -.01 | .04  | -.04 | -.01 | .03 | -.05 | .01  | .16  | .22  | .28  | .23  | .17  | .31  | -.22 |      |    |
| 58 | -.05 | -.08 | -.01 | .01  | -.08 | .05  | .01  | .00 | -.05 | -.02 | -.06 | -.06 | -.09 | -.11 | .01  | -.08 | .09  | -.04 |    |