INDIVIDUALISM, COLLECTIVISM, AND THE BIG FIVE: HOW CULTURE AFFECTS THE VALIDITY OF THE FIVE-FACTOR MODEL

by

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Abstract

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HOW CULTURE AFFECTS THE VALIDITY OF THE FIVE-FACTOR MODEL

by

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Four studies tested the hypothesis that the Five-Factor Model of personality is more valid for individualists compared to collectivists. In Study 1, participants wrote descriptions of their own personalities and of incidents in which they behaved both consistently and inconsistently with their personalities. They were then compared on the number of general and situation-specific trait descriptions they provided. Individualists gave significantly more general personality descriptions for the incident consistent with their personalities, as well as more situation-specific descriptions for the incident inconsistent with personality. Results supported the hypothesis that individualists perceive their traits to be stable and consistent across situations. In Study 2, participants completed a Big Five inventory then rated how similar their own personalities are to individuals described as being high on Big Five traits. Contrary to hypotheses, Conscientiousness was a stronger predictor of the similarity rating for collectivists than for individualists. In Study 3, participants read vignettes with personality descriptions of individuals in social roles requiring them to behave inconsistently with their personality traits. Participants rated how likely and believable it would be for the individuals to behave consistently with their personality traits and also with the social role demands. Individualism/ Collectivism was not significantly associated with any of the likelihood/believability ratings. In Study 4, participants completed an extraversion inventory then participated in a job interview role

play requiring them to display either extraverted behavior or introverted behavior. The amount of extraverted behavior exhibited by individualists was expected to vary as a function of their Extraversion inventory scores, while the amount of extraverted behavior exhibited by collectivists was expected to vary as a function of the social role demands of the task. Tests for this interaction effect were not significant. Implications are discussed.

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Introduction

In the past several decades of personality research, there has been extensive empirical support for a model of personality containing five major personality dimensions. This Five-Factor Model of personality (McCrae & Costa, 1990) holds that the dimensions of Agreeableness, Extraversion, Conscientiousness, Openness to Experience, and Neuroticism most accurately describe the personality domain (Digman, 1990; McCrae & Costa, 1990; McCrae & Costa, 1996; 1997; Wiggins, 1997). Although the bulk of the research on which this theory is based has been conducted in the United States, recently these dimensions have emerged in studies conducted in other countries. Questionnaire data on the Five-Factor Model have been gathered in several different cultural contexts with similar supporting results, leading advocates of this theory to argue that the "Big Five" is universal (Church & Katigbak, 1989; Katigbak, Church, Guanzon-Lapena, Carlota, & Pilar, 2002; McCrae & Costa, 1997; Narayanan, Menon, & Levine, 1995; Piedmont & Chae, 1997; Trull & Gear, 1997).

Despite this increasing support for the five-factor structure across different cultures, several theorists have cited concerns with relying exclusively on translated personality inventories as evidence for the universality of the Big Five (Church, 2000; Markus & Kitayama, 1998). Among the most common are that it limits researchers to Western personality constructs of uncertain relevance in diverse cultures (Katigbak et. al., 2002), that the behaviors associated with particular traits may vary across cultures (Church, 2000; Katigbak et. al., 2002), and that personality traits may serve different semantic functions across cultures such as describing versus explaining behavior (Choi, Nisbett, & Norenzayan, 1999; Morris & Peng, 1994). These possible limitations are

clearly recognized, but they have not been addressed in the research of the Big Five conducted abroad. Behavioral measures of personality have been absent, as well as attempts to identify elements of culture that may be relevant to the Five-Factor Model. Without obtaining relevant criterion measures of personality traits and explicating constructs of culture, it is difficult to ascertain the meaningfulness of the Five-Factor Model in different cultural contexts.

Also central to understanding personality from a cultural standpoint is the way in which culture molds the self-concept. Cultures differ on how their members define the self in relationship to others. Some cultures, for example, are composed predominantly of individuals who live relatively independently from one another. Most members of these cultures strive for self-sufficiency and assert their own goals, preferences, and attitudes. These characteristics describe individualist cultures (Triandis, 1995). Other cultures are composed predominantly of individuals who live interdependently. Most individuals from these cultures rely extensively on in-group members for support, and they assert the goals, preferences, and attitudes of the in-group. These characteristics describe collectivist cultures (Triandis, 1995).

Differences in individualism and collectivism have important implications regarding behavioral manifestations of Big Five traits across different cultural contexts. Because the Five-Factor Model was developed in the United States, a highly individualistic culture, it may not be equally valid in cultures where individualism is not as prevalent. Social interactions among members of collectivist cultures are often determined by context (Triandis, 1995), and this may mitigate the role of individual differences in influencing behaviors. The Five-Factor Model asserts that Big Five traits

are manifest in behavior patterns that are consistent over extended periods of time (McCrae & Costa, 1996). However, in collectivist cultures, where social roles and group norms strongly impact behaviors, expressing personal preferences and attitudes may often undermine the interdependence that is so highly valued. In these cultures, behavior patterns may be more a function of the structured social roles that serve to maintain harmony and interdependence rather than of personality traits that serve to maintain individuality.

Thus, the question raised has to do with the amount of variance in behavior that can be explained by personality traits versus contextual influences in individualist and collectivist cultures. Although it is possible that the Big Five are culturally universal in terms of underlying personality structure, the usefulness of the Big Five in predicting how individuals will behave in given situations may vary as a function of individualism and collectivism. Social roles may influence behaviors to a greater extent in collectivist than in individualist cultures. The aim of the present investigation is to test empirically the proposition that the Five-Factor Model is more valid for individualists than for collectivists in predicting behavior.

The organization of this paper is as follows. First, an overview of the Five-Factor Model literature is provided, followed by a review of the research conducted on the Big Five in cross-cultural contexts. Next, the individualism and collectivism literature relevant to the Five-Factor Model is discussed. Lastly, four studies are described that assess the predictive validity of the Five-Factor Model for individualists as compared to collectivists.

CHAPTER 1: A Cross-Cultural View of the History of the Big Five

History of the Five-Factor Model of Personality

Although the Five-Five Factor Model of personality did not emerge until the 1980's, precursors to the model date back to the 1930's. Allport (1937) and Murray (1938) were among the first theorists to recognize personality psychology as an independent field of research, to emphasize the importance of studying the individual as a unit of analysis, and to begin discourse on traits as components of personality. Allport in particular was one of the originators of the lexical approach to deriving personality trait descriptions (John, 1990). This approach uses a taxonomy of personality traits from a comprehensive list of descriptions obtained from language dictionaries. Allport and Odbert (1936) first created such a list, using the 1925 edition of Webster's New International Dictionary to compile about 18,000 words that distinguished "the behavior of one human being from that of another" (p. 24).

Although Allport and Odbert (1936) grouped their original list into four categories that roughly represented distinct types of trait descriptions, it was Thurstone (1934) who first proposed using factor analysis to group them into clusters that would represent traits (Wiggins, 1990). Catell (1943) followed Thurstone's suggestions using Allport and Odbert's (1936) list. He first reduced the list by eliminating unusual or redundant words, then used factor analytic techniques to cluster the ratings of the descriptions into more meaningful dimensions. Originally, Catell used ratings by acquaintances. However, he later began using self-report data for replicating his factor structure (John, 1990).

By the time Catell began these replication studies, other researchers such as Fiske (1949) and Eysenck (1947) were using similar data gathering and analysis techniques to reduce dictionary-based personality taxonomies into smaller clusters of personality dimensions. However, the limitations in factor analytic techniques of the time, as well as disagreement in interpretation of the factor structures obtained by these various researchers posed difficulties with developing a personality structure on which they could all agree, even when analyzing the same set of original variables. The taxonomies of these researchers contained as little as three dimensions of personality and as many sixteen (Digman, 1996). Agreement by separate researchers on either the number of factors that made up the personality domain or their meaning was not reached until the 60's, when Tupes and Christal (1961), Norman (1963), and Borgatta (1964) obtained similar five-factor structures using scales contained in Catell's previous work.

Despite mounting evidence by several independent groups of researchers that a five-factor structure could account for the entire personality domain, the climate during the 60's and 70's was not ripe for full acceptance of the model (Digman, 1990, 1996). One reason for this was the stronghold that behaviorism had on psychology. Personality traits were viewed by many as mental phenomena and therefore not fit for scientific investigation (Digman, 1990, 1996; Pervin, 1990). Another was the harsh criticism from researchers such as Mischel (1968) and Peterson (1960), who dismissed trait theory as a fallacy.

The shift from behaviorism to cognitive psychology in the 1980's, as well as advances in the field of psychometrics, provided a much more favorable climate for theory and research on personality traits to thrive (Digman, 1996). As a result, the work

of earlier trait theorists was re-examined with much less skepticism, and new instruments were developed that provided more accurate measurements of the personality constructs of interest. In addition, a new group of researchers, including Goldberg (1981) and McCrae and Costa (1985) provided evidence supporting a five-factor personality structure from trait descriptions that were independent of those contained in earlier studies, such as those of Catell (1943) and Allport (1937). With mounting evidence for the five-factor structure from multiple, independent sources, the model began to form into a more formal theory of personality (John, 1990).

Today's Five Factor Model is not very different from the previous trait-based factor analytic models of personality. McCrae and Costa's (1996) work is based on Goldberg's (1981,1996) lexical approach, which identifies traits via analyses of adjectives obtained from dictionaries, a procedure similar to that originated by Allport (1937). Although the number of factors, the names of the factors, and the interpretations of the factors have been frequently disputed over the years, the content of the factors has not changed dramatically (Digman, 1996; John, 1990). McCrae and Costa (1985, 1995, 1996) were effective in promoting the Five-Factor Model precisely because they identified the similarities among their work and that of previous trait researchers. They also developed the most commonly used Five-Factor Model inventories for easy, cost effective measurement of the five traits.

Following the increased acceptance of the Five-Factor Model in the 1980s, a growing constituency of researchers became interested in whether the model could be applied to individuals of different cultures. If personality traits are innate (McCrae & Costa, 1996), then they should characterize all individuals, irrespective of cultural

upbringing. This proposition has been tested in studies administering Big Five inventories to samples of individuals from various countries. The results, which will be discussed in detail below, are generally supportive of the five-factor structure. However, cross-cultural support for the model thus far has only come from inventory data. In order to make a stronger case for the cross-cultural validity of the Five-Factor Model, trait-relevant behaviors must be identified, as well as how associations between traits and behaviors may differ across cultures. In the following sections, issues concerning the cross-cultural validity of the Five-Factor Model are discussed further.

Culture and the Five-Factor Structure

Any discussion of culture brings with it the question of what is considered culture-specific, or "emic," and what is considered culturally universal, or "etic" (Triandis. 1997). As with most topics that have been addressed in relation to culture, there are researchers who believe personality is determined by culture (e.g., Shweder & Herdt, 1984), those who believe that personality is not affected by culture (e.g., Eysenck, 1990), and those who believe personality has both culture-specific and universal elements (e.g., Triandis, 2000). Advocates of the Big Five maintain that while the five-factor structure is universal, behavioral expressions of the five dimensions may vary among cultures (McCrae et. al., 1998; McCrae, 2001). Thus, this perspective that claims the Five-Factor Model has both emic and etic elements.

Thus far, research on culture and the Big Five has focused primarily on the etic. It has promoted the universality of the five-factor structure via factor analyses of data from personality inventories, most of which were developed and validated in the United States. Nevertheless, the data that have emerged from this research strongly support the

universality of the five-factor structure. This includes studies that have successfully replicated the model in non-Western countries such as China (Trull & Geary, 1997), Korea (Piedmont & Chae, 1997; Yoon, Schmidt, & Ilies, 2004), and the Philippines (McCrae, Costa, del Pilar, Rolland, and Parker, 1998). One recent study that gathered data from Russia and the Czech Republic not only replicated the five-factor structure, but even assessed cross-observer agreement on Big Five inventory scores (McCrae, Costa, Martin, Orgol, Rukavishnikov, Senin, Hrebickova, & Urbanek, 2004). The authors gathered self-report inventory data as well inventory ratings for the same individuals from their spouses and siblings. Moderate to high agreement was obtained on all five dimensions, with Extraversion receiving particularly high cross-observer agreement. In summarizing the cross-cultural evidence supporting the five-factor structure, McCrae and colleagues (1998) state "…the Five Factor Model is replicable, not only in different languages but in languages from entirely different families, including Sino-Tibetan, Hamito-Semitic, Uralic, and now Malayo-Polynesian. This universality of structure provides reason to suspect that other aspects of personality – its development, heritability, and correlates – may also be broadly generalizable across cultures (p. 183-184)."

However, some researchers are not convinced of this argument. For example, Church (2002) argues that the personality inventories used in the above studies may be imposing their factor structure onto new cultures in which they are administrated. Support for this argument comes from data indicating that the Multidimensional Personality Questionnaire has also successfully replicated its structure in different countries (Ben-Porath et. al., 1995).

In another retort to the above findings, Toomela (2003) maintains that the robustness of the five-factor structure increases with higher levels of education, cognitive ability, and exposure to pro-Western scientific thinking in those completing the inventories. He notes that the vast majority of studies on the Big Five outside the U.S. sampled college students who are more Westernized than the general populations of their countries. In addition, some studies conducted in non-Western countries replicated the five factors, but they were more closely related to one another than in typical studies from the U.S. For example, Yoon, Schmidt, and Ilies (2004) replicated the five-factor structure in Korea but could not come up with an orthogonal solution as suggested by McCrae and Costa (1996).

Also in support of Toomela's argument are studies using so-called indigenous personality measures (e.g., those developed locally and independently of the Five-Factor Model). These studies have approximated the five-factor structure, but nevertheless have represented the personality domain noticeably differently from studies using Big Five inventories. For example, Church and Katigback (1989) obtained evidence for the five-factor structure in the Philippines by using three different measures of personality, all in the country's native language of Tagalog. The measures included peer nominations and a self-report inventory and were developed by the researchers using trait descriptions independent of the Big Five. Analyzing these data, the authors found that while higher order Philippine dimensions resemble the Big Five, some of the dimensions (e.g., Neuroticism and Extraversion, Conscientiousness and Openness to Experience) were more closely associated with one another and more difficult to separate than in previous Western studies. Sampling East Indians, Narayanan, Menon, and Levine (1995) used

free-descriptor and critical incident techniques as indigenous measures and found strong support for the Five-Factor Model. Nevertheless, they obtained a few trait descriptions that were not captured by the Big Five structure.

In China, Yang and Bond (1990) developed and validated a personality inventory that resulted in four personality dimensions having approximate equivalents in the Five-Factor Model. Conscientiousness, a dimension thought to be particularly prevalent among Asian cultures (Realo, Allik, & Vadi, 1997; Triandis, 2001) did not emerge, presumably because Conscientiousness is socialized into Chinese culture to such an extent that individual differences on this dimension may be difficult to detect (Triandis, 2001). Cheung, Leung, Zhang, Sun, Gan, Song, and Xie (2001) conducted another study in China in which they could not replicate the Openness dimension, and two unique personality factors were obtained. One of these, the dimension labeled by the authors as Interpersonal Relatedness, was further validated in a separate study that sampled managers from a Chinese organization. In addition, Bond (2000) used locally developed Chinese personality questionnaires in two studies and obtained evidence for a dimension of personality he labeled Chinese Tradition that is not part of the Big Five Structure.

There is clearly a need to conduct more cross-cultural research on the Five-Factor Model with more representative sampling and with using more indigenous measures. However, the fact that the Five-Factor Model has replicated personality dimensions that are generally comparable in numerous cultures lends strength to the universality argument (Church, 2000). Despite the noted cases in which the five-factor structure did not replicate as cleanly in non-Western cultures and when using alternative personality

measures, the similarities across cultures appear to be much greater than the differences. Overall, there is considerable support for the universality of the five-factor structure.

Predicting Behaviors from Big Five Traits Across Cultures

Hogan (1996) maintains that personality inventory data are the product of self-representational processes. That is, they reflect the images people try to maintain rather than the abstract traits they purport to measure. Therefore, the value of an inventory score depends on what it predicts rather than on the abstract constructs to which it refers (Hogan, 1996). Although it can never be determined how well a personality inventory score captures an abstract construct such as a trait, the fit between an inventory score and behavioral observations can be assessed with some accuracy (Hogan, 1996).

How behavioral manifestations of traits should be measured is an ongoing debate. Mischel (1968, 1983,1990), who was among the most prominent authors instigating the attack on trait theories beginning in the sixties, maintains that in order to establish the existence of traits, trait-relevant behaviors must be demonstrated across multiple contexts. According to Mischel (1990), this type of evidence has yet to be demonstrated. Meanwhile, those in favor of trait theories have conducted very little empirical research addressing the criterion consistency issue. Instead, they have relied on longitudinal studies of trait inventory scores. The logic behind this is that humans can rationally observe and describe their own behaviors (McCrae & Costa, 1996). If individuals have insight into the way they behave and are forthright about reporting those insights, then accurate information about traits may be obtained by simply asking people about their attitudes and behaviors (McCrae & Costa, 1996). This logic assumes a one-to-one correspondence between item responses and their corresponding hypothetical traits, an

assumption that can never be accurately evaluated (Hogan, 1996). While trait inventory scores have been shown to be consistent over time (McCrae & Costa, 1992), it remains questionable whether this sufficiently supports the notion that behavioral manifestations of traits will also be consistent.

There are also a handful of studies that have generated significant associations between scale scores of Big Five traits and specific behaviors. For example, Lippa (1998) found that for males, Extraversion significantly correlated with inflected speech, fast speech, rhythmic speech, and keeping one's hands away from the body. For females, the Extraversion predicted loud voice, full voice, gesturing, and not tilting one's head. Similarly, Funder, Furr, and Colvin (2000) found that extraversion scores predicted fifteen behaviors in females and twenty-eight behaviors in males. Among the behaviors significant in both sexes were initiating humor, showing enthusiasm and energy, and being physically animated. In female dyad interactions, Berry and Hansen (2000) found that Agreeableness predicted visual attention and body position. For behaviors within work contexts, Barrick and Mount (1991) conducted a meta-analysis in which Conscientiousness showed consistent associations with job performance for five different occupational groups. In the same study, Extraversion predicted social interaction at the workplace, as well training proficiency.

The above findings are encouraging for researchers interested in identifying Big Five traits within applied contexts. However, psychologists are far from classifying core behaviors known to be representative of any of the five factors. Furthermore, two of the five dimensions - Openness and Neuroticism – may be difficult to classify behaviorally because the items in Big Five inventories representing these dimensions have low

behavioral content. Pytlik Zillig, Hemenover, and Dienstbier (2002) had experts analyze the relative amount of affective (A), behavioral (B), and cognitive (C) content of the most commonly used Five-Factor Model inventories. They found that the six different inventories they analyzed were very similar in their proportions of A, B, and C. However, there were large differences in proportions among traits. Conscientiousness and Extraversion scales contained the most behavioral content (68 percent and 53 percent, respectively). Agreeableness contained 43 percent behavioral content, while Openness and Neuroticism had particularly low behavioral content, both at 17 percent. Openness consisted mostly of cognitive content, while Neuroticism consisted mostly of affective content.

The above results have very important implications regarding how traits predict behaviors. If the relative amount of within-trait affective, cognitive, and behavioral content in Big Five inventories represents the traits' true proportions, then Big Five traits may be both structurally and substantively different from one another. As a result, operationalizing each trait will be dictated by that trait's unique properties (Pytlik Zillig et. al, 2002). For example, there would be relatively few behavioral correlates of Neuroticism and Openness if the within-trait content of the commonly used inventories is consistent with the actual traits. However, if it is not representative, then those aspects of traits not captured by present inventories (e.g., behavioral content of Neuroticism and Openness) must be identified so that we can better conduct criterion-related studies of the five traits. Until this issue is resolved, it appears that finding behavioral correlates of Big Five traits should focus on those traits that are high on behavioral content, namely Conscientiousness and Extraversion.

Notwithstanding these differences in the content of traits represented in personality inventories, the value of the Big Five cross-culturally rests on the capability to conduct criterion related studies. Even Big Five proponents, who have typically avoided discussing traits as predictors of behaviors, agree. For example, in a recent paper, McCrae (2001) outlined different levels of cross-cultural personality research. Transcultural research, he argued, identifies human universals such as trait structure. This can be distinguished from intracultural personality research, which examines the unique expression of traits in specific cultures.

Church (2000) has emphasized the importance of intracultural research, stating that "The viability of the trait concept rests on the ability of trait assessments to predict relevant criteria in a given culture…" (p. 656). These trait-criterion associations need not be equivalent across cultures (Church, 2000; Triandis, 2001). In fact, differences across cultures in the criteria that trait inventories predict may be the most revealing type of evidence about the influence of culture on the expression of personality traits. Because culture consists of values, norms, and beliefs that directly impact behavior (Triandis, 1995), it is likely that culture-specific expressions of given traits will vary. Presently, very little is known regarding cultural differences in the expressions of traits because so little research has been conducted in this area.

In sum, proponents of the Five-Factor Model have focused exclusively on replicating the five-factor structure with data from Big Five inventories. They have done so very successfully in Western cultures and fairly successfully in non-Western cultures. Big Five theorists, however, have avoided conducting research on the association between Big Five traits and observable behaviors because doing so would not be relevant

to one of the model's main assertions, which is that the five factors are innate and biologically determined (McCrae & Costa, 1997). Because behavior has both internal and external influences, it cannot be completely representative of one's personality.

However, the fact that there is no direct causal link between personality traits and behavior should not preclude behavioral research from being conducted within the framework of personality theories. Support for this argument is strengthened when considering a model such as the Big Five, which claims that the five factors of personality are universal across cultures. How can we assess if there are differences between extraverts from the U.S., China, and Brazil, for example, if we do not investigate how extraverts from these three cultures behave in given situations? While there are likely to be behavioral similarities across cultures in talkativeness and assertiveness, there will most likely be observable differences in these characteristics as well.

The main argument emerging from the literature discussed thus far is that the evidence supporting the existence of the five-factor structure across cultures is sufficiently strong to accept the Big Five as being culturally universal as a personality structure. Furthermore, the Five-Factor Model would greatly benefit from cross-cultural research that goes beyond merely replicating the five-factor structure and attempts to explain how culture plays a role in the behavioral expressions of Big Five traits. The following pages outline a theoretical perspective with this goal in mind.

Identifying the "Culture" in Cross-Cultural Personality Research

The fact that the five-factor structure has emerged in different cultures, many of which have very dissimilar languages, is remarkable. However, even if substantial differences in personality structure were found, how could they be explained? When

culture is not defined or measured, but rather substituted for the place in which a study is conducted, there is no means for comparing the cultures under study. Because geographic location is confounded, the variables underlying the differences cannot be determined. Thus, in order to argue that cultural differences are somehow related to differences in personality constructs, culture needs to be operationalized in some way.

Few authors have addressed how constructs of culture may have such an influence on constructs of personality. Five-Factor Model advocates (e.g., McCrae, 2001, McCrae et. al, 1998) have argued that behavioral correlates for the five traits should be found in cultures for which there is evidence supporting the five-factor structure, and that cultural differences in these behavioral correlates should also emerge. However, no attempts have been made by these researchers to specify how culture may cause such differences in trait expressions.

Some cross-cultural theorists have speculated that traits may not predict behaviors in some cultures as well as in others. For example, Triandis (2001) argues that cultural differences in consistency between psychological processes and behaviors may impact the degree to which personality traits determine behavior. It is likely that in those cultures characterized by less perceived consistency of traits across different contexts, situational determinants will be more likely to account for behavior and mitigate the role of personality traits (Triandis, 2001). Church (2000) also suggests that trait assessment may have less predictive validity in those cultures where context, harmony among in-group members, and adherence to social norms strongly impact behavior patterns.

The arguments raised by Church (2000) and Triandis (2001) are not whether culture determines the kinds of behaviors that are representative of traits, but rather if

culture determines the likelihood that these behaviors will be expressed. Those cultures in which trait-relevant behaviors are less likely to be expressed may be ones in which group norms are valued more highly than individual attitudes. Those cultures in which trait-relevant behaviors are more likely to be expressed may be ones in which individuality and uniqueness are valued more highly than conformity to group norms. These cultural differences are best explained by individualism and collectivism.

CHPATER 2: Individualism, Collectivism, Social Roles, and the Five-Factor Model

Individualism, Collectivism, and the Big Five

Individualist cultures emphasize uniqueness and autonomy (Triandis, 1995) and therefore may place more value on individual differences than do collectivist cultures. For collectivists, group norms strongly influence social interactions (Triandis, 1995), making social roles more likely to figure prominently in determining behavior. Norms and roles may explain a relatively large proportion of variance in behaviors in collectivist cultures and therefore remove some of the predictive power of personality traits in explaining behaviors. These issues can be better understood when considering two core attributes that distinguish individualists from collectivists: definition of the self, and emphasis on norms versus attitudes (Triandis, 1995).

I. Definition of the Self. Markus and Kitayama (1991) distinguish independent from interdependent self-construals. Individualists have independent self-construals. They consistently seek to assert their inner attributes, and they view the social environment as a means to confirm these attributes. Their knowledge of themselves and others is organized according to personal characteristics that are stable across situations. The emotions they experience are focused on the self, and they engage in self-enhancing behaviors to raise self-esteem (Markus & Kitayama, 1991). Individualists favor personal needs, rights, and contracts (Triandis, 1995). With relatively few social obligations or duties to others, they maintain a focus on personal preferences. For individualists, self-enhancement portrays the self as unique and competent when separate from others (Kitayama et. al., 1997).

Collectivists have interdependent self-construals (Markus, 1990; Triandis, 1995). They view their behaviors as contingent upon the thoughts, feelings, and actions of others. Their knowledge of themselves and others is organized according the types of relationships that are formed and the social contexts in which they take place. The emotions they experience are more likely to be focused on others than on the self, and they engage in self-criticizing behaviors to find ways of self-improvement (Markus & Kitayama, 1991; Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997). For collectivists, obligations and duties to others guide social behavior (Triandis, 1995). Standing out from others is generally disfavored in collectivist cultures, where attention to the individual only undermines interdependency with in-group members (Heine & Lehman, 1995; Kitayama et. al., 1997; Markus & Kitayama, 1991).

Heine and Renshaw (2002) found that Japanese school children's self-descriptions were significantly different from peer descriptions compared to the self-descriptions and peer descriptions of American school children, which tended to be similar. They argued that individuals with interdependent self-construals reveal different aspects of the self to different people. For these people, personality traits and their corresponding patterns of behavior may be inconsistent across situations. Those with independent self-construals, in contrast, are more likely to reveal the same "self" to different people.

The above evidence builds upon earlier studies by Miller (1984) and Cousins (1989), which demonstrated the importance of context as a cultural influence on self-descriptions. Miller's (1984) study found that Americans made significantly more references to general dispositions and significantly fewer references to contextual factors

than Hindus when describing themselves. In addition, for Americans references to general dispositions increased with age while references to contextual factors decreased with age. Miller argued that these differences were due to contrasting cultural conceptions acquired over development in the two cultures. Cousins (1989) administered the Twenty Statements Test to a sample of Americans and a sample of Japanese. When the participants were asked to give personal descriptions without having any information about context available, the Americans were much more abstract and elaborate in their self-descriptions, while the Japanese gave more role-specific information. When contextual information was provided (e.g., about specific situations and roles), this pattern was reversed. The Japanese were more abstract and detailed, while the Americans gave more situation-bound information.

Taken together, the results from the studies above suggest that for collectivists, the demarcation between the self and context is less clear. Because the context is made up of the social roles and norms that depend on the person(s) with whom one is interacting and the situations in which these interactions take place, collectivists' definitions of the self will be at least partly embedded in these roles and norms. Collectivists have interdependent self-construals and a more volatile sense of self that searches for self-critical information that can direct future efforts. In contrast, individualists have independent self-construals and a stable sense of self that searches for self-enhancing information indicative of their abilities. When they receive this type of information, it gives them confidence that they have what they perceive to be the fixed attributes that will bring them success.

The aforementioned cultural differences in the self-concept are important for arguing that the predictive validity of personality theory may differ across cultures. The evidence suggesting that there is variance among cultures in self-construal (e.g., independent versus interdependent) and motivation orientations (e.g., self-enhancing versus self-improving) implies that the concept of personality traits may serve different functions across cultures. For example, using Kitayama and colleague's (1997) social constructionist perspective, individualist cultures may socially construct situations in which individuals are expected to express and enhance the fixed inner attributes they believe they have. Collectivist cultures, because they ascribe less to the concept of fixed traits, may construct situations in which personal attributes figure less prominently in social interactions. Morris and Peng (1994) have speculated that personality traits in individualist cultures may serve to explain behaviors, while in collectivist cultures they may merely describe behavior. To better understand this distinction, we turn to a discussion of another core aspect that defines individualism and collectivism: emphasis on attitudes versus norms (Triandis, 1995).

II. Emphasis on Attitudes versus Norms. Individualist cultures emphasize attitudes over norms, whereas the reverse is true for collectivists (Triandis, 1995). Attitudes are constituent elements of personality (McCrae & Costa, 1995) because they are qualities on which individuals can be compared. Cultures emphasizing attitudes place more value on the personal attributes those attitudes reflect. As a result, differences in attitudes are more likely to surface in the behaviors of individualists. Members of these cultures enjoy asserting their uniqueness, making much of their behavior indicative of their personal preferences.

In contrast, collectivist cultures differentiate less among individuals because cultures emphasizing norms place more value on the context those norms reflect. Members of these cultures assert interdependency with others (Triandis, 1995), which makes it less likely that behaviors will be driven by personal attitudes. In collectivist cultures, the situation is more likely to determine the behaviors that are deemed as appropriate. This provides clarity regarding the expectations of others and facilitates meeting group needs and goals. Collectivist cultures tend to be tight cultures (Triandis & Bhawuk, 1997) characterized by small ranges of acceptable behaviors and low tolerance for deviation from customs.

In Western cultures, it has been found that people commonly believe that behavior reflects personality traits, prefer explanations of behavior in terms of internal attributes, and assign causality of behavior excessively to traits and not frequently enough to situations (Choi, Nisbett, & Norenzayan, 1999). These phenomena are known as Lay Dispositionism (Ross & Nisbett, 1991), the Correspondence Bias (Gilbert and Malone, 1995), and the Fundamental Attribution Error (Ross, 1977), respectively. Choi, Nisbett, and Norenzayan (1999) argue that, at least in Western cultures, these phenomena are so pervasive that they are staples of modern social psychology.

The differences between individualists and collectivists on emphasizing norms versus attitudes may also shape the causal inferences that individuals make on observed behaviors. That is, individualist cultures emphasizing attitudes may make it more likely that people will make dispositional attributions to behavior. On the other hand, collectivist cultures emphasizing norms may make it more likely that people will make situational attributions to behavior. In one study, Choi and Nisbett (1998) found that a

group of both Americans and Koreans exhibited the correspondence bias when reading an essay either for or against capital punishment. Both groups of participants indicated they believed the writer expressed his true attitude to the same degree even when they were told he was forced to take that stance. However, the authors actually did obtain differences between these two groups after they made the situation more salient by forcing the participants themselves to take a particular stance on capital punishment. When this was done, the correspondence bias significantly decreased for Koreans, but the manipulation had no effect on Americans. In addition, the Koreans were less susceptible than Americans to the actor-observer bias. That is, when forced to take a position that did not reflect their true attitudes, the Koreans were able to recognize that the target person's essay also did not express his attitude. In contrast, the Americans believed that the target person's essay represented his attitude even after they were forced to take a position different from their own. Thus, Korean participants became less susceptible to errors in judgment than American participants after the situation was made salient.

The increased sensitivity for East Asians to situational influences on behaviors appears to be related their holistic approach to perception. Nisbett, Peng, Choi, and Norenzayan (2001) maintain that East Asians attend to the entire field of perception when observing events and often assign causality to multiple sources within this field. The authors distinguish between this East Asian "dialectical" reasoning from the more logical and analytic reasoning found among Westerners, which focuses on single objects and the categories to which they belong. In addition, they argue that these differences are so pervasive that they go beyond observations of social events. For example, Morris and Peng (1994) presented a group of American and a group of Chinese students with

drawings of groups of fish swimming in various directions. The Chinese students were more likely to perceive the movement of the fish as caused by external forces, whereas the American students were more likely to perceive the movement of the fish as caused by internal forces.

Thus, the literature suggests that cultural differences in causal attribution are a function of collectivists' greater sensitivity to contextual influences rather than their insensitivity to dispositional information (Choi et. al., 1999). Nevertheless, this awareness of context may be related to the emphasis placed on norms rather than attitudes in collectivist cultures. While it may not be unusual for a collectivist to make dispositional inferences when there are no clear situational influences present, collectivists' emphasis on norms may make them more likely to ascribe causality to the situation when such influences are present. As a result, it may be that in collectivist cultures, traits play a lesser role in accounting for behaviors than in individualist cultures.

Social Role Differences in Individualist and Collectivist Cultures

If the situation can differentially impact behavior across cultures, then it may be fruitful to try to identify specific situational variables that are likely to have such effects on behavior. Situations are socially constructed in culturally unique ways (Kitayama et. al., 1997). Among the elements contained in socially constructed situations are social roles. Social roles can be defined as behavioral repertoires or sets of standards for particular people or positions (Bettencourt & Sheldon, 2001). Along with norms, values, beliefs, and attitudes, social roles are commonly included as part of the definition of culture (Triandis, 1995 1997). The importance of social roles as situational influences is highlighted by Hogan (1996), who argues that roles are part of every social interaction.

Research on social roles already holds promise in uncovering more information regarding the cross-situational consistency of personality traits. Sheldon, Ryan, Rawsthorne, and Llardi (1997) measured the consistency of Big Five traits across the social roles of friend, student, employee, romantic partner, and child. They found evidence for both cross-role variability and cross-role consistency of the Big Five traits using a questionnaire asking participants to describe their personalities across these varied roles. In support of cross-role variability, participants indicated they are most extraverted as a friend, most neurotic as a student, most conscientious as an employee, most open to experience as a romantic partner, and least agreeable in student and child roles. In support of cross-role consistency, the authors obtained an alpha coefficient of .80 for the consistency of traits across roles. Sheldon and colleagues (1997) concluded from these findings that proponents of the Five Factor Model focus excessively on establishing the consistency of their inventories by ignoring how contextual influences such as social roles may affect self-perceptions of traits.

In discussing the relationship between culture and social roles, one could argue that in individualist cultures, social roles emphasize expressions of individuality, whereas in collectivist cultures, social roles emphasize expressions of interdependency. However, Bettencourt and Sheldon (2001) caution against assuming that there is an inherent conflict between the self and others when fulfilling social roles. They argue that autonomy and relatedness need not be mutually exclusive but can instead be complimentary goals. They found evidence for this argument in a study in which autonomy and connectedness in social roles were independent predictors of subjective well-being.

Nevertheless, while Bettencourt and Sheldon's (2001) findings suggest that autonomy and relatedness may be independent needs within social roles, cultures may still vary on the value they place on each of these. For example, individualist cultures, which emphasize attitudes over norms and contain a majority of members with independent self-construals, would appear to value autonomy over relatedness. Collectivist cultures, which emphasize norms and contain a majority of members with interdependent self-construals, may be more likely to value relatedness over autonomy.

The importance of autonomy in the social roles of individualist cultures is highlighted in studies conducted in the United States examining self-concept differentiation. For example, Donahue, Robins, Roberts, and John (1993) found that the tendency to see oneself as having different personality characteristics in different social roles (self-concept differentiation) was related to poor emotional adjustment, including symptoms of depression, anxiety, and low self-esteem. In addition, dissatisfaction with role performance and frequent role changes in relationships and jobs predicted self-concept differentiation. The authors argued that contrary to the common belief that self-concept differentiation into specialized role identities is adaptive, such differentiation actually causes psychological fragmentation and prevents forming an integrated core self. Sheldon and colleagues (1997) also found that role conflict was positively associated with depression and perceived stress, and negatively associated with identity integration and self-esteem.

However, in light of the self-construal literature, the need to avoid self-concept differentiation may be a Western cultural norm. In fact, data from Sheldon and colleagues (1997), as well as Bettencourt and Sheldon (2001) support the idea that social roles

promote subjective well-being to the extent that they incorporate and provide a means to express one's personality traits. These authors suggest that feeling genuine, authentic, and self-expressive within social roles enables people to incorporate their core traits into these roles and fosters feelings of competence and self-worth. However, if social roles do not allow such expression of inner attributes, they may produce conflict and negative psychological consequences. The notion that social roles need to be outlets for expression of one' inner traits is consistent with Markus and Kitayama's (1991) definition of independent self-construals. Individuals with independent self-construals are consistently seeking ways to express their inner attributes across different situations (and therefore across different social roles) so that they can confirm that their traits are stable, consistent, and not embedded within any particular role, context, or other situational element.

In collectivist cultures, social roles may serve as outlets for self expression only to the extent that they incorporate the interdependent self. As such, collectivist social roles are more likely to emphasize relatedness and connectedness with others. Therefore, there may be fewer negative psychological consequences for collectivists than for individualists when social roles limit the expression of inner traits. For example, in social roles calling for extraverted behavior, an introverted collectivist may have little difficulty adjusting to the role if it provides a means to connect with others. However, in the same situation an introverted individualist would not value the opportunity to connect with others to the same extent. Instead, more value is placed on simply expressing one's traits. As a result, the individualist may behave introvertedly despite the role demands.

Otherwise, he may feel the lack of authenticity and self expression alluded to by Bettencourt and Sheldon (2001).

Clearly, more research is necessary investigating the value and meaning of social roles in individualist versus collectivist cultures. However, the evidence accumulated thus far suggests that whereas social roles are primarily a means of self-expression for individualists, for collectivists they are primarily a means to connect with others. Because of this, collectivists may have an easier time adjusting to social roles that pull for behaviors inconsistent with one's traits. Individualists, on the other hand, may find such an adjustment relatively difficult because it conflicts with their need for independence and self-expression.

Summary

Taken together, all of the findings presented thus far indicate that while the Five-Factor Model may be culturally universal in describing how individuals differ, it may still not be equally valid across cultures in predicting behavior, particularly when there are situational influences present. From the individualism and collectivism literature, we know that there are cultural differences in how people define themselves. Individualist cultures promote independent self-construals in which the stability and consistency of inner traits across situations is emphasized, personal needs are favored over duty to others, and self-enhancing strategies are used to maintain beliefs about uniqueness and self-worth. Collectivist cultures promote interdependent self-construals in which interconnectedness, relatedness, and duty to others are favored over personal needs, and self-effacing strategies are used to seek ways of self-improvement that will augment these

social bonds. These differences in self-construal make it more likely for an individualist's personality traits to manifest behaviorally in a given situation.

Also from the individualism and collectivism literature, we know that individualist cultures emphasize attitudes, whereas collectivist cultures emphasize norms. Attitudes are part of personality traits (McCrae & Costa, 1995). Once again, they are ways of expressing one's uniqueness, personal needs and desires. Collectivist cultures emphasize norms, which provide information on appropriate behavior in given contexts and relationships. This deemphasizes the individual and his or her personality, and makes it less likely that an individual's traits will be expressed behaviorally. Related to the emphasis on attitudes versus norms is the causal attribution literature, which shows that collectivist cultures are less likely to make errors in judging the trait-behavior associations of people they observe whenever the situational influences on those behaviors are made salient (Choi & Nisbett, 1998). Thus, collectivists are more sensitive to contextual influences and may therefore be more likely than individualists to behave according to situational demands.

Finally, it was argued that studies providing evidence that social roles provide subjective well-being when they are a means to express one's inner traits (e.g., Bettencourt & Sheldon, 2001; Sheldon, 1997) may be representing a point of view from individualist cultures. Because collectivist cultures emphasize interdependence with others, expressions of individuality within social roles may not be as important as the bonds that social roles create. Therefore, social roles that limit self-expression will not necessarily result in less subjective well being for collectivists, particularly when social roles successfully maintain interdependent relationships. Furthermore, individualists may

be more likely than collectivists to express their inner traits in social roles that conflict with those traits.

Thus, culture may not have an impact on innate tendencies to be extraverted, but the likelihood that these tendencies will be expressed behaviorally is susceptible to situational influences. Specifically, an extraverted collectivist may be more likely to behave introvertedly in situations that pull for introverted behaviors. On the other hand, an extraverted individualist may be more likely to express extraverted behavior in the same situation. By itself, the universality of the five-factor structure only refers to the existence of the five traits as general descriptions of a person's characteristics in the absence of contextual influences. Markus (1990) has argued that Western personality theories tend to ignore the interpersonal self. Until such theories begin to address more extensively the social situations in which personality traits are expressed, their usefulness beyond merely describing personality traits may be limited.

The Present Research: Purpose and Overview

The following pages describe four studies designed to assess differences between individualists and collectivists in the degree to which Big Five personality traits and contextual factors explain behavior. The first three studies used self-report measures, while the fourth study focused on the Big Five trait of Extraversion in its ability to predict actual behaviors in different social roles.

In Study 1, participants were asked to describe their own personalities. The descriptions included situations in which they behaved consistently with their perceived personality traits, as well as situations in which they behaved inconsistently with these traits. Individualists and collectivists were compared on the content of their responses.

Study 2 assessed the strength of the association between two self-report measures of Big Five traits. One was a standard Five-Factor Model inventory and the other was a self-rating exercise containing more situation-specific information. In this second measure, participants gave Likert-type ratings of how similar their personalities were to the personalities of other individuals described as high on Big Five traits. These descriptions included some contextual information that was expected make collectivists' (but not individualists') ratings less consistent with their Big Five inventory scores. The scores from the first Big Five inventory, along with individualism and collectivism, were used to predict the similarity ratings.

Study 3 focused on social roles in competing with Big Five traits for predicting future behaviors. Written vignettes were used to describe the Big Five traits of hypothetical individuals and the particular social roles they fill. The vignettes described situations in which the personality traits competed with the social roles in explaining the likelihood and believability of future behaviors. Individualists were expected to indicate that it would be more likely and believable for the people described in the vignettes to behave consistently with their personality traits, whereas collectivists were expected to indicate it would be more likely and believable for them to behave consistently with the social roles. Finally, Study 4 focused on behavioral manifestations of the Big Five trait of Extraversion. Extraverted behaviors were observed in a role play in which participants were prompted to behave in either an introverted or extraverted manner. Individualists' extraverted behaviors were expected to be predicted by their Extraversion inventory scores. Collectivists' extraverted behaviors were expected to be predicted by the social role condition to which they were assigned.

Collectively, these studies were expected to reveal a stronger association between personality traits and behavior for individualists than for collectivists, as well as a stronger association between social role demands and behaviors for collectivists compared to individualists. Such findings would suggest that while most behavior can be explained by a combination of internal (e.g., personality) and external (e.g., social roles) influences, culture may play a role in determining the relative proportion that is accounted for by these two influences.

Measuring Individualism and Collectivism. In deciding how to operationalize the constructs of individualism and collectivism, researchers must address two important issues. The first is that I/C is generally discussed in the literature at the cultural or societal level while it is not always measured at that level. One common example of how I/C is represented in the literature is people living in a particular geographical region, such as East Asians, or people living in a particular country, such as Americans. Most of the construct validation studies of the Big Five presented earlier in this paper represent culture in this manner. Toomela (2003) labels these operationalizations of culture as sociologically oriented measures. Another way of representing culture at the group or societal level is to first measure I/C at the individual level, then aggregate the data to represent countries, cultures, or societies. This method was used in the landmark works of Hofstede (1980) and Schwartz (1994) and is labeled by Triandis (1995) as the cultural level of analysis. This is probably the least common way in which I/C is operationalized.

Researchers also have the option of measuring I/C at the individual level without aggregating the data, which is essentially assessing individual differences in I/C. Theoretical discussions in the literature rarely depict I/C as an individual difference

variable, yet it has often been measured as one using self-report inventories (Oyserman, Coon, & Kemmelmeier, 2002; Triandis, 1995). Triandis (1995) labels individualism and collectivism at the individual level as idiocentrism and allocentrism, respectively, but few other researchers make this distinction.

Perhaps the most important point of all regarding the relationship between the cultural and individual levels of analysis is that there may be considerable variability on individualism and collectivism among members of the same culture. In addition, a minority of members of individualistic cultures are higher in collectivism than individualism, and vice-versa. Although Schwartz (1994) repeatedly obtained correlations between group-level and individual levels of I/C inventories above .80, Triandis (1995) maintains that researchers should not assume the relationship is that strong and therefore should not continue substituting geographical location as a surrogate for culture.

The second issue facing researchers when measuring I/C is that the literature most commonly depicts individualism and collectivism as polar opposites of a single dimension when empirical data demonstrate that they are separate, orthogonal constructs (Oyserman et. al., 2002; Triandis, 1995). Few cross-cultural studies acknowledge that members of a given culture may vary on both individualism and collectivism. In addition, most studies that have measured I/C at the individual level have really only measured one of these two dimensions. A meta-analysis on I/C by Oyserman et. al. (2002), revealed that only 87 of the selected 170 studies examining psychological implications of individualism and collectivism actually measured I/C at all. Of those 87, only 36, or 40%, assessed both individualism and collectivism. The remaining 60%

measured either individualism or collectivism, but not both. Thus, there is no commonly agreed upon approach to measuring individualism and collectivism.

In deciding the measurement protocol for the present research, three issues were considered. The first was that all the studies were conducted at the same location. Four laboratory experiments were run at a single university. Therefore, the cultural level of analysis was not possible. Second, the cultural diversity of the student population from the college where this research was conducted was unusually high relative to the U.S. population. The most recent data available for demographics at this college indicate that 36.2% of the student population was White, 36.2% was Asian, 16.4% was Hispanic, and 11.2% was Black. In addition, many of the students were either recent immigrants or had parents who were immigrants from countries within Europe, Asia, and Africa. These statistics suggest that the student population was too culturally diverse to obtain a homogeneous group-level sample on cultural variables such as individualism and collectivism.

A third issue was that the goal for the present research was to assess the relationship between I/C and personality traits. Thus, because personality traits are by definition individual differences and must be assessed at the individual level, the corresponding I/C data must also be measured at this level. Toomela (2003) made the same argument when critiquing the many cross-cultural studies on the Big Five, noting that the sociologically oriented representation of culture used in most of these studies is inappropriate for understanding phenomena such as personality traits that are assessed at the individual level. Thus, because the present research was intended to investigate

individual differences in trait-behavior associations, the individual level of analysis was deemed most appropriate for operationalizing I/C.

Finally, there was the additional issue of whether to measure individualism, collectivism, or both. As stated previously, the literature provides no consistent protocol for operationalizing I/C (Oyserman et. al., 2002). The present studies include measures of both individualism and collectivism, for two reasons. First, both individualism and collectivism have been discussed at length in the literature, and both are equally important to the hypotheses to be tested. Second, because individualism and collectivism are orthogonal, scores on one dimension cannot be assumed to reflect scores on the other.

Thus, the approach used here was to obtain a "difference" score in which individualism was subtracted from collectivism. Because the means and standard deviations for the individualism and collectivism scales were slightly different, the scores for both scales were standardized before the difference was computed. Using this method, numbers above zero indicated a stronger collectivistic (versus individualistic) orientation, whereas scores below zero reflected a stronger individualistic (than collectivistic) orientation. This approach further bypassed the problem of obtaining and interpreting complex interactions between individualism, collectivism, and personality in predicting behavior. In addition, it achieved a compromise such that I/C was not represented very differently from how it is discussed in the literature.

There are critics of difference scores, most notably Edwards (2001), who states that difference scores are most commonly used in studies of fit, similarity, and agreement between two constructs. Examples include the fit between a person and a job, the similarity between employee and organizational values, the match between expectations

and experiences, and the agreement between performance ratings. In these typical cases the two component measures are positively correlated, which makes it more likely that the reliability of the resulting difference score will be considerably lower than the separate reliabilities of the two composite measures (Edwards, 2001). In these examples, difference scores close to zero indicate fit or agreement between the two constructs, which is typically associated with positive outcomes such as satisfaction. In contrast, higher absolute values indicate lack of fit in either the positive or negative direction, which is typically associated with fewer positive outcomes (e.g., lower satisfaction). Edwards' (2001) analyses of the assumptions embedded within difference scores do not support the above interpretations indicating that lower absolute values lead to more positive outcomes.

The difference score used in the present research differs from the above examples in that it is not representing the fit, similarity, or agreement between two related measures. Rather, it is intended to represent an actual difference between two orthogonal constructs. In addition, the hypotheses to be tested do not assume that higher or lower difference scores are associated with positive or negative outcomes. Instead, different outcomes are proposed based on the direction of the difference (which represents either an individualist or collectivist orientation), and larger differences are expected to yield more robust results.

Thus, some of Edwards' (2001) criticisms of difference scores do not apply to the I/C difference score described here. In addition, this difference score seemed most appropriate for operationalizing I/C for the reasons noted above. As a result, this score was used for the present research. In the following sections describing four studies,

"individualists" refers to participants who were found to have stronger individualistic tendencies, and "collectivists" refers to those participants who were found to have stronger collectivistic tendencies.

CHAPTER3: Study 1

Study 1 tested for differences in the amount of general versus situation-specific descriptions individualists and collectivists provided about their own personalities, and in the extent to which they used trait versus situation-specific information to explain past behavior. In Essay 1, open-ended descriptions of participants' personality were obtained. Individualists were predicted to give significantly more general (e.g., context-free) trait descriptions and significantly fewer situation-specific descriptions. Collectivists were predicted to give significantly more situation-specific trait descriptions and significantly fewer general trait descriptions.

For Essay 2, participants were instructed to describe a situation in which they behaved consistently with their personality traits and explain why they did so. In these descriptions, the same results were expected as in Essay 1. Individualists were expected to give significantly more general trait descriptions and significantly fewer situation-specific descriptions in explaining their behaviors, whereas collectivists were expected to give significantly more situation-specific explanations and significantly fewer general trait descriptions for their behavior.

For Essay 3, participants were asked to describe a situation in which they behaved inconsistently with their personality traits. For this task, I hypothesized that I/C would not be significantly correlated with the number of general trait descriptions; however, individualists would give significantly more situation-specific trait descriptions than collectivists. This is because perceived inconsistencies between traits and behaviors are undesirable for individualists and will induce them to seek situational causes for the

discrepancies. For collectivists, such inconsistencies are perceived as more acceptable and will result in providing fewer situational explanations.

Method

Participants. Participants were 66 college undergraduate psychology students at a large Northeastern university who received course credit for participating. They were recruited via sign-up sheets posted on bulletin boards at the college's psychology department. Because a literature review yielded no prior research linking measurement of individualism and collectivism to self descriptions, a medium population effect size of r =.30 was estimated. A power analysis indicated that for a correlational study with an estimated population effect size of .30, a sample size of 66 was needed to achieve a power of .80 (Cohen, 1988).

Materials. Participants completed Triandis' (1995) individualism/collectivism questionnaire (Appendix A) by marking the extent to which they agreed or disagreed with each item on a 5-point Likert scale. The Cronbach alpha reliability coefficient for the individualism subscale was .74; for the collectivism subscale it was .76. Triandis (1995) reported alpha reliability coefficients of .66 for individualism and .78 for collectivism. The individualism and collectivism subscales were not significantly correlated, r = .04, ns. All scores were standardized and individualism z-scores were subtracted from the collectivism z-scores to obtain an overall I/C orientation. Scores greater than zero reflected a collectivistic orientation, whereas scores below zero reflected an individualistic orientation. I/C was operationalized in this manner for all studies that follow.

Procedure. Participants completed the I/C scale and then were asked to write three essays. In Essay 1 they were asked to give written descriptions of their own personalities. The instructions were as follows: "In the space provided below, please write a description of your own personality. Give as much detail as possible. Include information about your thoughts, feelings, and behavior. You may describe yourself in any way you like, as long as you give a complete picture of what you are like. Please try to write as much as you can."

In Essay 2, they participants were asked to describe a situation in which they behaved consistently with their personality traits. The instructions for this essay were as follows: "In the space provided below, please describe an incident from the past in which your behavior was very typical of your personality. For example, if shyness is one of your characteristics, you could describe an incident in which you were afraid to talk to someone. However, please try to pick a situation in which your behavior represented as many of your personality traits as possible. Please do not make up a fictional story. This event must have actually happened. Again, be as detailed as possible in your description."

In Essay 3, participants were asked describe a situation in which they behaved inconsistently with their personality traits. The instructions for this Essay were as follows: "In the space provided below, please describe an incident in which your behavior was very different from your personality. For example, if politeness is one of your characteristics, you could describe an incident in which you were rude to someone. Please also try to explain why you behaved inconsistently with your personality traits. Again do not make up a fictional story, and be as detailed as possible."

Coding. The personality descriptions were coded by two raters: the principal investigator (Rater 1) and an undergraduate research assistant (Rater 2). Both completed the ratings before the I/C scores were calculated. For each essay, the raters recorded the number of general and situation-specific personality descriptions. General descriptions were defined as those not qualified by a specific situation or role. Examples of general personality descriptions were "I am a people-person" and "I like to socialize". Thus, the descriptions were not limited to personality adjectives but rather included things such as activities, interests, and any other means participants used to provide information about their personalities. Situation-specific descriptions were defined as those containing any situation, context, or role qualifiers. Examples of situation-specific descriptions were "I am very motivated when I am at work" and "With my family I am reserved." The principal investigator also tallied the total number of all descriptions provided in each essay. These were the sum of the general personality descriptions, the specific personality descriptions, plus any additional descriptions that were not used to describe personality traits. Examples of this were descriptions of physical characteristics such as "I am tall," and events that were described such as "I went to my friend's house."

As the two coders read the essays on their own, they kept separate tallies of participants' general and specific descriptions. When they later met to assess reliability, they compared both the number of general and specific descriptions they had recorded, as well as whether the same descriptions were represented on their lists. They discussed their disagreements and individually recoded any essays for which they had low agreement.

Interrater reliability was calculated by first obtaining proportion statistics for the general and specific descriptions. Thus, for all three essays, the number of general and specific descriptions was separately divided by the total number of descriptions. A total of six proportion statistics were obtained per participant. Six intraclass correlations were then conducted between the corresponding proportions for Rater 1 and Rater 2. 46 of the 66 completed surveys were coded by both raters and were used to calculate reliability. The reliability coefficients obtained were as follows: For the general and specific descriptions in Essay 1, the coefficients obtained were .96 and .84, respectively; for the Essay 2 (incident typical of personality), they were .99 and .97; and for Essay 3 (incident atypical of personality) they were .99 and .97. Rater 1 completed the ratings for the remaining 20 surveys. Rater 1's data were used for the final analyses.

Results

Correlations were conducted between participants' standardized individualism/ collectivism difference scores and the proportion of general and specific descriptions for Essays 1, 2, and 3. A summary of the correlations is presented in Table 1. For Essay 1 in which participants were simply asked to generally describe their personalities, I/C was not significantly correlated with the number of general descriptions ($r = .13$, ns) nor situation-specific descriptions ($r = .07$, ns). Thus the hypotheses that individualists would provide more general traits descriptions, while collectivists would provided more situation-specific descriptions, were not supported.

For Essay 2 in which participants had to describe an incident when they behaved consistently with their perceived personality traits, I/C was significantly correlated with the number of general trait descriptions, $r = -.25$, $p = .04$. This finding was consistent

with the first hypothesis for Essay 2. That is, individualism was significantly associated with giving more general trait descriptions. However, the second hypothesis for Essay 2, which was that collectivists would give a greater number of situation-specific descriptions when describing past behaviors that were consistent with their perceived traits, was not supported, $r = -.02$, ns.

For Essay 3, participants described an incident when they behaved inconsistently with their perceived personalities. As predicted, I/C was not significantly associated with the number of general trait descriptions provided, $r = -.02$, ns. In addition, I/C was significantly associated with the number of situation-specific descriptions provided, $r = -.28$, $p = .03$. As predicted, individualism was associated with giving more situation-specific descriptions when describing an incident in which one's behavior did not correspond with one's perceived traits.

Discussion

Of the six proposed hypotheses for Study 1, three were supported. There were no significant findings for Essay 1. Thus, when asked to generally describe their personality traits, there were no differences in the number of general or situation specific descriptions provided between individualists and collectivists. This may have been because in the first essay, participants were asked to describe their personality very generally, with no references to specific contexts or situations. Choi and Nisbett (1998, 1999) found that cultural differences in causal attribution are most likely to emerge when situational variables are made salient. Perhaps a similar phenomenon occurs when describing one's own personality. If people are asked to describe themselves with no references to particular contexts or situations, then cultural differences in the extent to which

contextual influences are used in the descriptions may not be manifested. However, when made of aware of specific situations or contexts, such cultural differences may emerge. The findings for Essays 2 and 3 discussed below lend some support to this hypothesis.

Regarding Essay 2, there was a significant difference between individualists and collectivists in the number of general trait descriptions provided. As predicted, individualism was associated with a higher number of general trait descriptions when describing a situation in which behavior was consistent with perceived personality traits. Thinking of a specific example in which one's inner attributes were exhibited may provide a means by which individualists can express their uniqueness. Once they are able to come up with such examples, it may trigger the cognitions, motivation, and emotions typical of persons with independent self-construals (Markus & Kitayama, 1991).

However, for Essay 2, the hypothesis that collectivism would be associated with a greater number of situation-specific descriptions was not supported. This may have been because this task essentially required that participants provide examples of their perceived personality traits. Thus, even though they were asked to describe a specific situation, that situation may have been overshadowed by the fact that they were confirming the existence of their perceived personality traits. While collectivists may link their traits to particular situations or contexts, asking them to give behavioral examples of those traits may weaken these links.

In the third essay, participants were asked to describe a situation in which they behaved inconsistently with their personality traits. As predicted, there was no difference

between individualists and collectivists in the number of general trait descriptions provided. The hypothesis that individualists would give significantly more situation-specific trait descriptions was also supported. These findings support the idea that individualists will seek to explain inconsistencies between their perceived and behaviors by emphasizing the situation. Collectivists, on the other hand, believe such inconsistencies are not unusual and therefore are not motivated to explain them.

The findings of Study 1 lend partial support to the notion that context may differentially affect the perceptions of personal attributes for individualists and collectivists. However, it is still unclear as to whether individualists and collectivists are differentially affected by the influence of context when describing themselves within the framework of the Five-Factor model. For example, would self ratings on the five factors differ for individualists and collectivists when the ratings are rich in situation-specific behavior? Study 2 was designed to address this issue.

CHAPTER 4: Study 2

In Study 2, individualists and collectivists were compared on the strength of association between two self-assessment personality instruments differing in the amount of contextual information provided. Personality inventories like those used to assess the Big Five require respondents to make self-ratings about attitudes and behavior with little or no contextual information available. However, prior research (Choi & Nisbett 1998) suggests that collectivists are more likely than individualists to attribute their own and others' behavior to the situation when such contextual information is made salient.

Participants completed an abbreviated version of a Five-Factor Model inventory (NEO-FFI) and another self-report measure in which they rated how similar their personalities were to individuals described as high on Big Five traits. The personality descriptions in this second measure were based on the 13 cluster themes devised by Saucier (1998) from his analysis of the NEO-FFI. Saucier's study produced a list of adjectives associated with each of the five factors. These adjectives were used in the personality descriptions, which were written by the principal investigator. There were five different descriptions, each portraying one individual as being high on one Big Five trait and behaving within a specific situation. Thus, this measure contained more behavior-based personality information and also contained more situation-specific details than the NEO-FFI, yet was still designed to assess participants on the Big Five.

The predictor variables were I/C orientation, scores on the NEO-FFI subscales, and the interactions between I/C and each of the Big Five traits. The dependent variables were the similarity ratings corresponding to the Big Five traits. Main effects were predicted for the personality subscales. This would simply illustrate that the similarity

ratings were based on information contained in the Big Five inventory participants completed (Saucier, 1998). No main effects for I/C were predicted. Finally, an interaction effect was predicted such that each NEO-FFI subscale would predict the similarity ratings more strongly for individualists than for collectivists. The additional situation-specific information contained in the descriptions was expected to weaken collectivists' perceptions of their own Big Five traits. Because collectivists' behaviors are more sensitive to situational influences than those of individualists, highlighting the situation was expected to attenuate the relationship between the two personality ratings.

Method

Participants. Eighty-eight participants were recruited from a large Northeastern university. For a multiple regression with two independent variables and a medium population effect size of R^2 =.10, a power analysis revealed that 90 participants would be needed to obtain a power level of .80 (Cohen, 1988). Sign-up sheets were used to recruit undergraduate students taking an introductory psychology course. They received course credit for participating.

Materials. Participants completed the same I/C scale as in Study 1. Sufficient internal consistency was achieved for both the individualism (α = .76) and collectivism (α = .78) subscales. The individualism and collectivism subscales for the Study 2 sample were not significantly correlated, r = -.20, ns.

Participants also completed Costa and McRae's (1991) abbreviated version of the Five-Factor Inventory (NEO-FFI) provided in Appendix B. The Cronbach alphas for the five personality subscales were as follows: Conscientiousness, .85; Openness, .72; Neuroticism, .63; Extraversion, .59; and Agreeableness, .31. Costa and McCrae (1992)

reported alphas for the NEO-FFI subscales ranging from .68 to .86. Because the alphas for the Neuroticism, Extraversion, and Agreeableness scales in this sample were particularly low, an analysis was done for these three scales to determine which item would increase the reliability the greatest if it were removed. With this one item removed, the new alphas for the Neuroticism Extraversion, and Agreeableness subscale, were .69, .73, and .60, respectively. For these three subscales, analyses were conducted using both the original scales (e.g., containing all items) and the modified scales.

Finally, participants completed the similarity ratings, all of which were written by the principal investigator (see Appendix C). As stated previously, the descriptions were based on Saucier's (1998) analysis of the NEO-FFI scale, which participants also had to complete. The list of adjectives corresponding to the Big Five that Saucier derived from his analyses were used to describe the individuals in the five separate descriptions. Each description portrayed an individual as being high on one of the five factors. In addition, each description depicted the individual behaving in a specific situation that highlighted the Big Five trait. Examples include a how a conscientious individual behaved during a group project for school, and how an extraverted person behaved while having dinner with friends

Thus, these descriptions provided personality portraits by depicting real-life, behavior-based situations. Nevertheless, the adjectives that were critical in defining each Big Five trait were used throughout. After reading each description, participants rated how similar their own personalities were to the personality of each person described. Ratings were recorded on 5-point Likert scales. The instructions and all materials for this task are included in Appendix C.

Procedure. Participants completed an informed consent form and read the instructions for completing the survey. They then completed the I/C scale, the NEO-FFI, and the similarity-rating scale written by the principal investigator.

Results

To test whether I/C and the five personality factors predicted the similarity ratings, five multiple regressions were conducted using each of the similarity ratings as dependent variables. For each regression, the independent variables were the I/C difference score and the Big Five subscore corresponding to the similarity rating. An I/C X personality subscale interaction term was also included in each of the five regressions as a second step to test for the variance in similarity ratings explained above and beyond that explained by the individual predictors alone. Table 2 summarizes the results for the five regression analyses.

The agreeableness personality description[1], yielded a main effect for I/C, $t(84) = 4.40$, $p = .00$, showing that collectivists rated themselves as more similar to the agreeable individual than individualists. A main effect was also found for Agreeableness, $t(84) = 2.28$, $p = .03$, showing that participants higher on Agreeableness rated themselves as more similar to the agreeable individual. However, the predicted I/C x Agreeableness interaction effect was not significant $t(83) = -.91$, $p = .37$. Thus, the hypothesis that the agreeableness subscale would predict the agreeableness similarity better for individualists than for collectivists was not supported.

The conscientiousness regression analysis yielded a main effect for the conscientiousness subscale score, $t(84) = 6.17$, $p = .00$, showing that the Big Five

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Analyses reported for agreeableness, extraversion, and neuroticism were conducted using the modified personality scales with higher reliability. However, both versions yielded the same results in all cases.

conscientiousness dimension was associated with higher similarity ratings for the context-specific conscientiousness personality description. No main effect for I/C was obtained. A significant interaction effect was also obtained for I/C x Conscientiousness, $t(83) = 2.12$, $p = .04$. Figure 1 depicts this interaction. The four data points represent the scores for people two standard deviations above and below the mean on Extraversion and I/C orientation. The figure shows that when collectivists were low on conscientiousness, they gave significantly lower similarity ratings than collectivists who were high on conscientiousness. Individualists, on the other hand, did not differ on the similarity ratings whether they were low or high on conscientiousness. This interaction effect was contrary to the hypothesized I/C-Conscientiousness interaction effect.

The Extraversion regression analysis yielded a main effect for Extraversion, $t(84) = 5.55$, $p = .00$, showing that the Big Five extraversion dimension predicted higher similarity ratings for the context-specific extraversion personality description. There was no main effect for I/C. The predicted I/C X Extraversion interaction effect was not supported, $t(83) = .-49$, $p = .62$. A main effect for Neuroticism was also obtained for the Neuroticism personality rating, $t(64) = 6.69$, $p = .00$, showing that Neuroticism predicted the context-specific neuroticism personality description. No main effect was obtained for I/C. The predicted I/C x Neuroticism interaction was not significant, $t(83) = .-30$, $p = .77$.

For the openness personality rating, a significant main effect for Openness was obtained, $t(84) = 3.03$, $p = .00$, showing that Openness predicted the context-specific openness personality description. A main effect for I/C was also found, $t(84) = 2.25$, $p = .03$, showing that collectivists rated themselves more similar to the context-specific

openness personality description than individualists. The I/C x Openness interaction was not significant, $t(83) = .46$, $p = .65$.

Additional data were obtained regarding the countries in which participants were born. It was found that 19 out of 88 (about 22%) participants were born in the United States. The principal investigator tried classifying participants not born in the U.S. into individualist versus collectivist countries, but there were too many participants born in countries for which no data could be found on I/C classifications. Therefore, the same regression analyses were conducted using U.S. born versus non-U.S born as the variable representing culture instead of I/C. Of the five regression analyses, there was one main effect for country of origin. Being born in the U.S. predicted higher scores on the Conscientiousness personality descriptions, $t(83) = 2.27$, $p = .03$. In addition, there was one interaction effect. The Extraversion personality scale predicted the Extraversion similarity rating better for those born outside the U.S., $t(82) = -2.11$, $p = .04$. This effect was also contrary to the predicted hypothesis.

Discussion

The hypotheses for Study 2 were that for each of the five similarity ratings, the Big Five personality dimension would be a better predictor for individualists than for collectivists, resulting in five I/C x personality interaction effects. Of the five regression analyses conducted using I/C as the culture variable, only the one on Conscientiousness produced a significant interaction effect. In addition, this interaction effect was contrary to predictions. The conscientiousness subscale predicted the conscientiousness similarity rating better for collectivists than for individualists.

This unexpected finding may be due to the fact that the situation described involved a group project. Because collectivists are more likely to express loyalty and commitment to in-group members, they may be more conscientious in group situations than they would be individually. As a result, collectivists' Conscientiousness scores may have become stronger (rather than weaker, as hypothesized) predictors for this particular similarity rating. Thus, had the similarity rating described a situation in which the person behaved conscientiously on an individual task, the results may have been different.

Another possible explanation for this finding relates to previous research suggesting that collectivist cultures generally tend to be very high on Conscientiousness because it is so strongly socialized in these cultures (Realo, Allik, & Vadi, 1997; Triandis, 2001). If being Conscientious is ingrained very strongly into collectivist cultures, then there will be few situations in which a collectivist who is high on Conscientiousness will fail to express this trait when given the opportunity. In other words, collectivist societies may not allow for many social interactions in which it would be acceptable not to behave conscientiously. This could mean that for collectivists, Conscientiousness is the one trait that is perceived as being desirable to possess across different situations and contexts. The strong association obtained for collectivists between the Conscientiousness subscale score and its corresponding similarity rating is consistent with this idea.

The remaining four tests for the I/C x personality interaction effects – those for Agreeableness, Extraversion, Neuroticism, and Openness – were not significant. One possible reason for this is that the personality descriptions may not have evoked strong enough images of the particular situations in which the individuals were involved. If so,

participants may have based their responses strictly on the personality information without imagining how they would behave if they were in similar situations. Thus, longer, more detailed descriptions of context within the descriptions may have produced results closer to the expected findings.

Another possible reason for these findings is simply the way participants were asked to respond to the personality descriptions. Following each description, participants were asked "Based on this information, how similar do you think your personality is to ….?" This instruction may have taken the focus away from the situation and emphasized the personality traits. Thus, despite the additional contextual and behavioral information provided in the descriptions, participants may have still processed the information as indicative of personality traits. If participants were asked "How similarly do you think you would have behaved in this situation," then perhaps collectivists could have picked up on the salience of the situation and responded differently.

When using country of origin as the culture variable, a similar interaction effect that was contrary to hypotheses was found for the Extraversion regression analyses. The Extraversion scale predicted the similarity rating better for those born outside the U.S. than for those born in the U.S. Once again, this may have been due to the fact that the similarity rating described a group situation in which the person described was having dinner with friends. It may be that extraverted collectivists are most extraverted when they are with people they know well and much less so when in contexts with which they are less familiar. Individualists, on the other hand, may be comparatively more extraverted across most situations because of their desire to express their uniqueness and

individuality but still less extraverted than collectivists when interacting with people they know well. Further research should test this hypothesis.

Overall, the main effects were consistent with hypothesis. As predicted, there were significant main effects for the personality dimensions for all five descriptions. Because the adjectives used in the descriptions were derived from the personality predictors, this result was not surprising. However, there were also two main effects for I/C. Collectivists had higher similarity ratings than individualists on both Agreeableness and Openness. The main effect for I/C on Agreeableness is consistent with previous research (e.g., Markus and Kitayama, 1991), which suggests that collectivists may avoid conflicts in order to maintain strong relationships, particularly with in-group members. However, the main effect showing that collectivists were higher on Openness is surprising given that collectivist cultures tend be tight cultures, meaning they have low tolerance for behaviors not consistent with the culture's norms (Triandis, 1995). As such, learning about customs, values, and experiences outside of one's culture is generally not as freely accepted within collectivist cultures as it is within individualist cultures. Perhaps this finding was due to the fact that the sample for this study was drawn from an extremely diverse student population, containing significant numbers of North Americans, South Americans, Eastern and Western Europeans, and Asians. Having to interact with people from so many different parts of the world will most likely make these students more tolerant of other cultures, even if they come from "tight" cultures that have little tolerance for outsiders. In addition, the sample was drawn from a college in New York City, where even the surrounding environment outside the school is extremely diverse and multicultural. Thus, the environmental setting may have produced

a type of collectivism in this student population that is more open to new experience than would typically be found elsewhere.

Overall, the results for Study 2 did not support the hypothesis that introducing situational information into personality measures of the Big Five would alter self-perceptions of Big Five traits for collectivists, but not for individualists. However, it was argued in the literature review that social roles are good examples of contextual variables that may compete with personality traits in determining behaviors. Therefore, examining situations in which traits and social roles compete with one another may make behavioral differences between individualists and collectivists more likely to emerge. For example, if a social role demands that an individual behave inconsistently with his/her personality traits, individualism and collectivism may help explain which of the two competing influences would be most likely to account for subsequent behavior. Behavior that is influenced by personality traits is not necessarily unaffected by the situation, and vice-versa. However, general patterns among groups of individuals may emerge whereby the strength of personality traits or situational influences in determining behavior remain somewhat consistent.

Although Study 2 had personality descriptions embedded within some detailed contextual information, it did not emphasize social roles, and none of the personality descriptions were competing with situational demands to determine behavior. Study 3 was designed to address this issue by attempting to show that personality traits more accurately explain perceptions of future behavior than do social roles for individualists, while the reverse is true for collectivists.

CHAPTER 5: Study 3

Study 3 examines whether individualism and collectivism determine the relative strength of personality versus social roles in predicting behavior. Because individualists believe they can mold the environment to achieve desired outcomes, they are more likely than collectivists to perceive that their accomplishments reflect their own abilities. Moreover, individualists believe more strongly than collectivists that their traits and abilities are stable across situations (Markus & Kitayama, 1991; Triandis, 1995). Therefore, individualists should be more likely than collectivists to view their traits as strong determinants of their behavior. Collectivists believe they must mold their behavior to the environment to achieve desired outcomes (Markus & Kitayama, 1991; Triandis, 1995). Their accomplishments reflect successful fulfillment of social roles and obligations to others. Therefore, collectivists should be more likely than individualists to view social roles as strong determinants of their behavior. These differences in the perceived importance of personality traits versus social roles in predicting behavior would suggest that collectivist norms and social roles may somewhat mask personal attitudes and preferences in influencing behavior.

In Study 3, this hypothesis was tested by having participants read three stories. Each story contained a personality description of an individual high on one Big Five personality trait. The stories also depicted the three persons having to respond to a conflict between their personality traits and social roles they had to fulfill. These vignettes focused on the Big Five personality dimensions of Extraversion, Agreeableness, and Conscientiousness. These three dimensions were chosen because, in a content analysis of the most commonly used Big Five inventories, Pytlik-Zillig and colleagues

(2002) found them to have the highest amount of behavioral content. The scenarios contained abundant contextual information. For all three stories, the social role required that the individual behave in a manner inconsistent with his/her personality profile. For example, the extraverted individual described in one of the stories was portrayed in a social role that required him to behave introvertedly.

Ratings were obtained from participants regarding how likely (l) and how believable (b) it would be for the protagonists to behave consistently with their personalities, as well as how likely and believable it would be for them to behave consistently with the social roles. The hypotheses were that for all three stories, collectivism would be associated with higher l/b ratings for behaving consistently with the social roles, while individualism would be associated with higher l/b ratings for behaving consistently with the Big Five personality traits. Support for these hypotheses would suggest that when personality traits compete with social roles in determining behavior, I/C may help explain which of these two competing factors will have the strongest impact on behavior.

Method

Participants. Participants were 108 undergraduate psychology students from a large Northeastern university receiving course credit for participation. Participants enrolled in the study by posting their names on sign-up sheets located on bulletin boards at the college's psychology department. A power analysis revealed that with an estimated population correlation of r = .30, a sample size of 110 was needed to attain a power level of .80 (Cohen, 1988).

Materials and Procedure. Participants completed the consent forms and the same I/C measure (Triandis, 1995) used in Studies 1 and 2. For the Study 3 sample, the alpha for the individualism subscale was .70; for the collectivism subscale it was .75. The individualism and collectivism subscales for this sample were not significantly correlated, $r = .16$, $p = .09$. After completing the I/C scale, participants began reading the vignettes and completing the likelihood and believability ratings.

Each vignette contained three sections. The first section provided the personality description of the protagonist and also described the social role that was conflicting with the personality profile. This section ended by suggesting the protagonist had to decide between behaving consistently with his or her personality and fulfilling the social role demands. Without knowing how the story concluded, participants were asked how likely and how believable it would be for the protagonist to behave consistently with their personalities, as well as how likely and believable it would be for the protagonist to behave consistently with the social role. Thus, a total of four ratings were obtained at the end of the first section.

The second section provided a continuation of the story whereby the protagonist decides to fulfill the social role and eventually becomes successful at it. Once again, participants rated how likely and how believable it would be for the story to end in this manner. Thus, two additional ratings were obtained at the end of the second section. Finally, the third section provided an alternative ending whereby the protagonist does not fulfill the social role successfully and eventually ends up behaving consistently with his or her personality traits. The last likelihood and believability ratings were obtained at the end of this third section.

In all, participants were twice asked how likely and how believable it would be for the protagonist to behave consistently with the social role and consistently with his/her personality – once after reading the general story and again after the story continued with the two alternative endings. All likelihood and believability ratings were conducted on five-point Likert scales ranging from 1 (with "Not at all likely" or "Not at all believable") to 5 ("Very likely" or "Very believable"). An example vignette is provided in Appendix D. After completing the ratings, participants were debriefed and dismissed.

Results

Each likelihood and believability rating pair was averaged together to obtain an overall l/b rating. This resulted in four l/b ratings for each of the three vignettes (two l/b ratings for behaving consistently with traits, and two for behaving consistently with the social role). The Cronbach alphas for the twelve pairs of ratings were sufficient, all but one pair falling in the range between .75 and .90. The one l/b rating that fell below this range was .63, which was for the first two ratings participants completed.

Originally, the l/b ratings were going to be collapsed across stories, yielding four overall l/b ratings (two for social role, and two for personality). However, the alphas for these four sets of three ratings were too low (they ranged from .23 to .64, only one of which was above .60). Additionally, collapsing the two l/b ratings for personality and two l/b ratings for social role within each story was attempted to get one overall personality l/b rating and one overall social role l/b rating per story. However, the alphas for these collapsed ratings were also too low (four of the six were below .50). Therefore, the twelve l/b ratings were retained and correlated with the I/C orientation score. The

correlations ranged from -.15 to .12, none of which were significant. Thus, I/C was not associated with choosing personality traits or social roles as determinants of future behaviors. These correlations are presented in Table 3.

Additional data were obtained regarding the country in which participants were born. Forty percent of the sample was born in the U.S. and 60 percent was not born in the U.S. Once again, an attempt was made to classify participants not born in the U.S. into individualist versus collectivist countries, but there were too many participants born in countries for which the principal investigator could not find data on I/C classifications. Therefore, additional correlations were conducted using U.S. born/non-U.S born instead of I/C with the same twelve likelihood/believability ratings. Of the twelve correlations, two were significant. For Story 1, Response 2, U.S.-born participants gave higher l/b ratings, $r = -.22$, $p < .03$. That is, participants born in the U.S. found the story ending with the protagonist behaving consistently with his personality more likely and believable. For Story 2, non U.S. born gave higher l/b ratings indicating the protagonist was likely to behave consistently with the social role demands, $r = .21$, $p = .03$. The remaining ten correlations were not significant and ranged from -.18 to .05.

Discussion

The hypotheses for Study 3 were that for all three stories, individualism would be significantly correlated with ratings indicating the protagonist would behave consistently with his/her personality profile. Collectivism was expected to be significantly correlated with the ratings indicating the protagonist would behave consistently with the social role. The results for Study 3 did not support these hypotheses. I/C was not significantly associated with any of the likelihood/believability ratings. However, two of the

U.S./non-U.S. born correlations were significant and consistent with predictions if U.S.-born participants are considered individualists and non-U.S. born participants are considered collectivists. Forty-two of the 65 non-U.S born participants came from either Asian or Eastern European countries, and a handful came from South American countries such as Peru and Venezuela. This appears to make this group collectivist overall. However, the remaining participants came from such countries as Tanzania, Albania, and Guyana, countries for which I/C data could not be found. Thus, given the uncertainty of the I/C orientation for some of the non-U.S. born participants, as well as the fact that only two of the twelve correlations were significant, only very modest support for the hypotheses were obtained when considering the U.S.-born versus non U.S.-born classification scheme.

One possible reason for the null effects in Study 3 is that participants were making ratings on other people, rather than themselves. Collectivists, for example, may find it believable for others to behave consistently with their personality traits while they themselves would be more likely to behave consistently with the social role. This may be especially likely given that all participants in this study live in the U.S., an individualist culture. Even those who are extremely collectivistic may quickly become sensitized to the fact that most others in the culture in which they live are individualistic. They may therefore be more likely to respond to scenarios presented in Study 3 according to how they believe most people in their society would respond, even if it does not represent how they would respond. Further research should test whether reference points can influence ratings such as those used in Study 3.

Although the results of Studies 2 and 3 did not support the hypotheses, neither of these two studies measured actual behaviors. Thus, there remains the issue of whether there are differences between individualists and collectivists in the degree to which personality traits and social roles predict observable behaviors. Study 4 gathered some behavioral data to assess the relationship between I/C, personality, and social roles in predicting behaviors.

CHAPTER 6: Study 4

The purpose of Study 4 was to test for differences between individualists and collectivists in the degree to which personality traits and social roles predict actual behaviors. In deciding which Big Five dimension(s) to focus on, a literature search was conducted to identify a list of observable behaviors that have been previously associated with the Big Five. Given that social role was to be a predictor variable in this experiment, the behaviors of most interest were those that could be observed during a role play in a lab experiment. The only dimension for which behaviors were identified in the literature that met these criteria was Extraversion. Therefore, an experiment was designed in which individual differences in both I/C and Extraversion were measured with questionnaires, and a role play exercise was designed in which social role was manipulated and extraverted behaviors could be observed and coded.

The role play consisted of a simulated job interview. Participants were given social role information describing successful employees of the company from which participants were seeking the job. The social role information was manipulated so that half of participants were led to believe that extraverted employees were most successful, while the other half were led to believe that introverted employees were most successful. All participants were then videotaped during the simulated interview, and extraverted behavior was coded. For individualists, social role information was expected to be minimally associated with extraverted behavior. That is, for individualists, extraverted behavior within the interview was expected to vary more as a function of extraverted personality as measured by an inventory. For collectivists, extraverted behavior was

expected to vary less as a function of their extraversion scores and more by the role expectations presented to them as job applicants.

Thus, the primary hypothesis was reflected in a predicted three-way interaction between I/C, Extraversion, and social role condition. The amount of extraverted behavior exhibited by individualists was expected to vary as a function of their Extraversion inventory scores, regardless of the social role information presented to them. Extraverted individualists were expected to display more extraverted behaviors during the interview than introverted individualists. In contrast, the amount of extraverted behavior exhibited by collectivists was expected to vary as a function of the social role condition to which they were assigned, regardless of their Extraversion inventory scores. Collectivists were expected to display more extraverted behavior in the extraverted social role condition than in the introverted social role condition. These results would support the idea that context-related factors such as social role information take precedence over personality traits in predicting behaviors for collectivists, while personality takes precedence over context in predicting behaviors for individualists.

Method

Participants. Participants were 198 undergraduate psychology students receiving course credit for participating. During data collection for this study, the study enrollment protocol changed at the college. As a result, approximately half of participants signed up for participation by placing their names on sign-up sheets posted on bulletin boards at the college's psychology department. The remaining portion signed up using web-based software. Because some of the analyses were to be done separately for males and females, the individual male and female samples needed to be large enough to conduct

separate multiple regressions for each gender with three independent variables. Once again estimating a medium effect size of $R^2 = .10$ for a multiple regression with the alpha at .05, a power analysis revealed that a sample of about 100 would be required to obtain power level at .80 (Cohen, 1988).

Materials. Participants completed the same individualism/collectivism measure (Triandis, 1995) used in the previous three studies, as well as the Extraversion scale from the NEO-PI-R (Costa & McCrae, 1991), presented in Appendix E. This Extraversion scale was the 48-item full-length version, rather than the abbreviated version used in Study 2. For this sample, the individualism subscale had a reliability coefficient of .75. For collectivism it was .77. Individualism and collectivism were significantly correlated in this sample, $r = .15$, $p = .04$. For the Extraversion scale, the alpha was .90. Costa and McCrae (1992) reported alphas for the NEO-PI-R ranging from .86 to .95.

Procedure. Participants were randomly assigned to either the Extraverted Role Condition or the Introverted Role Condition. The experimenter obtained consent from all participants to videotape a portion of the experiment before administering the questionnaires. One participant did not give consent and was therefore dismissed without penalty.

Participants first completed the I/C and Extraversion inventories. The experimenter then explained that they would be engaging in a role play in which they were seeking a job and would eventually be interviewed. Participants were told they would be given a job posting and a resume, which they were to imagine they have already submitted for the job. They were encouraged to approach the role play as if they were in a real-life job interview. After the experimenter gave participants this

information and answered any questions they had, he handed them the job posting and resume.

The job posting was for the position of accounting manager from a fictitious manufacturing company (see Appendix F). The resume contained no name but otherwise looked authentic and appeared to be a good match with the qualifications listed on the job posting (see Appendix G). Pilot testing revealed that some participants were concerned about having to remember all of the details on the resume. As a result, for the final protocol the experimenter emphasized that the interview would not require detailed knowledge of the resume. Instead, participants were encouraged to use the resume to familiarize themselves with the role they would be playing. Participants were also told that how they presented themselves in the interview was more important than the factual content of their responses. This change in protocol reduced the amount of time participants took to review the job posting and resume. Although participants were given as much time as they needed, most finished in less than ten minutes. The experimenter made sure that participants understood the information they were given and answered any questions they had before proceeding.

Next the experimenter collected the job posting and resume and handed participants a sheet of paper containing the social role manipulation. Pilot testing was conducted prior to data collection to ensure participants understood the manipulation. In the Extraverted Role Condition, the manufacturing organization was described as one containing a culture in which those employees who are confident, friendly, and assertive are most successful. Participants in this condition were encouraged to be energetic and social during the interview. In the Introverted Role Condition, the manufacturing

organization was described as one that is conservative, low-key, and professional. Successful employees in this organization were described as reserved and insightful. Participants in this condition were encouraged not to say more than was necessary and not to appear overly eager or excited.

After acknowledging that they understood this additional social role information, participants were invited to begin the interview. They were escorted to a chair in the back of the lab facing a one-way mirror. A video camera aimed at the participant interview chair was set up behind the mirror. Before beginning the interview, the experimenter went into the room containing the camera and turned it on. Participants could not see into this room. The experimenter played the role of the interviewer and asked all participants five questions, all in the same order. Participants were asked how they responded to a stressful situation from the past, to describe their role in a group project from the past, what the number-one strength is about their personalities, what they would like to improve about their personalities, and whether they wanted to provide any additional information regarding their qualifications. The questions were chosen with the goal of having participants respond spontaneously to the interviewer so that they use the social role information they were given and avoid simply repeating facts from the resume. On average, the interviews were conducted within three to five minutes. At the conclusion of the session, the experimenter informed participants that the experiment was over. They were then debriefed and dismissed.

Coding. The extraverted behaviors that were coded were taken from the Riverside Behavioral Q-sort (Funder et. al, 2000). The behaviors listed were found by Funder and colleagues to be significantly correlated with the NEO-PI-R Extraversion

scale (see Appendix H). A subset of behaviors from this list was selected as the dependent variables for this study. More details on the selection process are provided below. Two upper-class psychology undergraduate students were recruited as coders. They were given the same written instructions used by Funder and colleagues (2000) for coding the behaviors (see Appendix I). The coders were not given any information about Study 4 and had no knowledge of or access to any of the data other than the taped interviews.

Prior to conducting the ratings, the coders discussed the meaning of each rating and came up with behavioral examples of both high and low ratings of each item. They were also repeatedly reminded to code only observable behaviors and to make their observations according to how each participant compares to other participants in the sample rather than how the participant matches the coder's own definition of the behavior. During training the coders viewed each interview at least twice before conducting the ratings. However, after becoming comfortable with the procedure, they viewed each interview more than once only if they were uncertain about any of the ratings. Using 5-point Likert scales that contained response choices from -2 (Not at all characteristic) to 2 (Highly characteristic), the coders rated each participant on the behaviors.

Interrater reliability was assessed by conducting Pearson correlations for each pair of ratings on the first videotape, which consisted of 56 interviews. Twenty-seven of these were male, and twenty-nine were female. Most of the correlations were below acceptable levels (e.g., ranging from approximately .10 to .50), so the principal investigator met with the two coders to further discuss the definitions of the ratings.

During the meeting, the two coders watched some of the interviews on the first tape together and discussed some of the ratings. At this point both coders indicated that a number of the behaviors seemed either very difficult to code or inappropriate to a job interview-type social interaction. Most of the behaviors they identified as too difficult or inappropriate were among those with the lowest correlations (e.g., .25 or below). These behaviors were eliminated. Examples of such behaviors for males were *blames others* and *expresses guilt*. Examples of such behaviors for females were *shows self-pity/ victimization* and *gives up when faced with obstacles*. The definitions of the remaining items were reviewed again, and the raters went back and individually recoded the first 56 participants using the updated list. This entire process was repeated two more times before a final list of behaviors with acceptable levels of reliability was obtained. This final list contained eleven behaviors for males and five for females. The correlations for these behaviors ranged from .62 to .89. The final lists and their correlation coefficients appear in Appendix J.

Results

The ratings for extraverted behaviors were aggregated three ways. First, the mean of the five ratings for females was computed. The alpha for these ratings was .86. Next, the mean of the eleven ratings for males was computed. The alpha for these ratings was .93. Finally, the mean of the four ratings common to both males and females was computed. The alpha for these ratings was .83. These three means were used as the dependent variables in three separate multiple regression analyses. All three regression analyses contained three steps. For Step 1, Extraversion, I/C, and social role condition were entered; for Step 2, Extraversion X IC, Extraversion X social role condition, and I/C

X social role condition were entered; and for Step 3, Extraversion X I/C X social role was entered. A summary of the regression results for the female and male ratings is presented in Table 4, and a summary of the regression results for the combined female and male ratings is presented in Table 5. An additional three regression analyses were conducted replacing I/C with U.S. born versus non-U.S. born as the culture variable.

Female Results. For the regression analysis using I/C as the culture variable, there was one main effect for I/C, $t(93) = -3.19$, $p = .00$. Individualist females were more extraverted during the job interview role-play than collectivist females. No other main effects were significant. There were also no significant two-way interactions. Finally, the three-way interaction that was predicted was also not significant, $t(89) = -1.05$, $p = .30$. For the regression analysis using country of origin as the culture variable, the results were identical. The only significant effect obtained was for country, $t(92) = 2.39$, $p = .02$, indicating that women born in the U.S. were more extraverted in the job interview role-play than women born outside of the U.S. There were no other significant effects.

Male Results. For the regression analysis with I/C, there was a main effect for Extraversion, $t(97) = 3.18$, $p = .00$, showing that males scoring high on the Extraversion inventory were indeed more extraverted during the job interview role play. No other main effects were significant, and none of the two-way interactions were significant. The predicted three-way interaction was also not significant for males, $t(93) = .79$, $p = .43$. For the regression analysis with country of origin, there were main effects for both Extraversion, $t(96) = 2.57$, $p = .01$, and for country, $t(96) = 3.45$, $p = .00$. Thus, males

who scored high on the Extraversion scale and also males who were born in the U.S. were more extraverted in the job interview role-play.

Female/Male Combined Results. For the regression analysis with I/C, there was a main effect for Extraversion, $t(194) = 2.90$, $p = .00$, showing that both males and females who scored high on the Extraversion inventory exhibited more extraverted behaviors during the interview. There was also a main effect for social role condition, $t(194) = 2.13$, $p = .03$, showing that those in the extraverted social role condition were more extraverted during the interview than those in the introverted social role condition. There was no main effect for I/C, and none of the two-way interactions were significant. Once again, the predicted three-way interaction was not significant, $t(190) = .08$, $p = .94$. For the regression analysis with country, there were main effects for Extraversion, $t(192) = 2.54$, $p = .01$, for social role condition, $t(194) = 2.21$, $p = .03$, and for country $t(192) = 4.49$, $p = .00$. Thus participants who scored high on the Extraversion scale, who were in the extraverted social role condition, and who were born in the U.S. were all more extraverted in the job interview role-play. None of the interaction effects were significant.

Discussion

The results of Study 4 did not support the hypothesis that individualists' behaviors would be predicted more by their personality traits, while collectivists' behaviors would be predicted more by social role demands. Specifically, none of the predicted three-way interactions were significant. The only significant effects for the analyses using I/C were main effects for Extraversion on the male-only and male-female combined extraverted behaviors, for I/C on the female-only extraverted behaviors, and for social role condition

on the combined male-female extraverted behaviors. The only significant effects for the analyses using country were main effects for Extraversion on the male-only and female-male combined extraverted behaviors, for country on the female only, male only, and female/male combined extraverted behaviors, and for social role condition on the combined female-male results.

The main effects for Extraversion were consistent with Funder's (2001) conclusions that these particular extraverted behaviors are significantly associated with the extraversion scale of the NEO-PI-R. These effects also add to Funder's findings in that they were achieved in a job interview role-play rather than in an unstructured social interaction. If more significant associations could be established between personality questionnaire data and behaviors in multiple social contexts, then it will easier for future researchers to assess the predictive validity of personality traits in relation to other cultural and contextual variables. This study focused on the personality trait of Extraversion, the cultural variable of I/C, and the contextual variable of social role. Other similar relationships could be investigated, such as among Conscientiousness, power distance, and type of setting (e.g., work vs. home).

However, a main effect for Extraversion was not obtained with the female data. A possible reason for this is that so many of the "female" extraverted behaviors on Funder's (2001) original list had to be eliminated due to lack of reliability or inappropriateness to the role play. Perhaps there were too few remaining behaviors to be representative of the Extraversion domain as measured by the NEO-PI-R. Nevertheless, the fact that a main effect for Extraversion was obtained for the combined data suggests

that overall, the behaviors observed are valid measures of Extraversion in a job interview role play.

A main effect was also obtained for social role condition with the combined female/male data. Participants in the extraverted social role condition exhibited more extraverted behavior during the interviews than those in the introverted social role condition. Although this finding implies that the social role manipulation had its intended effect, it did not influence the behaviors of collectivists more strongly than individualists as anticipated. This could have been because of the way this manipulation was revised during pilot testing. Initially, the manipulation mentioned the work culture of the organization very broadly and contained only indirect suggestions that the information was intended to guide behavior during the interview. However, many of the participants in the pilot study did not indicate they fully understood the information until the language became much more direct and suggestive. For example, the final extraverted social role manipulation contained directives such as "Be open, talkative, and energetic." These instructions may have been too obvious to differentially affect participants who are more sensitive to context (e.g., collectivists) versus those who are less sensitive to context (e.g., individualists). Thus, creating a social role manipulation that was readily understood by all participants yet only strong enough to affect some of them proved extremely difficult.

One unexpected finding was the main effect for I/C (and country of origin) on extraverted behavior among women. Individualist women exhibited more extraverted behaviors during the interview than collectivist women. This finding may be explained by the fact that three of the five ratings (*expresses insecurity, behaves in a fearful/timid*

way, and shows awkward interpersonal style (all reverse-coded) are related to expressing confidence. Markus and Kitayama (1991) describe people with independent self-construals as being motivated to demonstrate their competence and uniqueness in order to boost feelings of self-efficacy and self-esteem. It may be that for women, showing one's independence and competence exudes confidence that can be interpreted as being extraverted. The same behaviors may not stand out as much for men because they may be viewed as being representative of masculinity. However, there were main effects for country of origin for females, males, and the combined female-male ratings. Thus, overall, being born in the U.S. was the strongest predictor of extraverted behavior during the job interview role-play. It may be that at least in job interview situations, U.S. culture promotes extraverted behavior as a means to obtain favorable evaluations more so than any other culture, individualistic or otherwise.

One final issue that may explain the null effects for Study 4 is simply lack of external validity. The fact that a five-minute job interview was conducted in a classroom with only a few minutes to prepare may have made it difficult for participants to become comfortable in their roles. Also, it seemed that most participants did not fully identify with the role they were asked to play. This is understandable given that most participants were in their late teens or early twenties and most likely had little experience with interviewing for managerial-type positions. Many may have also had little interest or experience with accounting and had difficulty motivating themselves to perform their roles effectively.

A handful of older students, however, some of whom had more interviewing and job experience, seemed to take more interest in the role. They also had a better

understanding of what they were asked to do. Such participants were probably better able to internalize the role because they were able to draw from past experience. These observations suggest that sampling from a different population – M. B. A. students, for example – may have produced results that were more consistent with the hypotheses.

Also, it is possible that pilot testing with a more appropriate sample would have resulted in a better social role manipulation, one that is more subtle and would not require overt language to be effective. This type of manipulation employed on a sample that better fits the accounting manager mold may have produced the expected differences in extraverted behavior between individualists and collectivists. Future lab studies investigating social roles and requiring role plays should be more careful to tailor the role the population being sampled.

CHAPTER 7: General Discussion

The purpose of the present research was to test the hypothesis that the Five-Factor Model of personality has more predictive validity for individualists than for collectivists. Despite the wealth of studies supporting the construct validity of the Five-Factor Model across cultures, there has been very little research conducted on how culture may affect the predictive validity of the Big Five. Drawing from the I/C and social role literature, it was argued that individualists have independent self-construals and are motivated to express their own attitudes, needs and rights. As such, it was hypothesized that individualists' personality traits would be strong predictors of their behavior across different situations. In contrast, collectivists have interdependent self-construals and are motivated to express the norms of their culture and meet the duties and obligations they have to others. As such, it was hypothesized that collectivists' personality traits would not predict their behaviors to the same degree as contextual variables such as social roles.

Four studies were conducted assessing whether individualists and collectivists show differences in describing their personalities and past events in terms of general versus situation-specific trait descriptions; whether personality ratings of collectivists (but not individualists) become less consistent when the ratings include detailed contextual information; whether individualists and collectivists make different predictions about future behaviors when personality traits compete with social roles; and whether actual behaviors of individualists and collectivists can be differentially predicted by personality traits versus social roles. Taken together, these four studies were intended to provide evidence indicating that predicting behaviors from Big Five personality traits would be more difficult for collectivists than for individualists.

Study 1 provided results that were most consistent with expected findings. In this study, participants described their own personalities, as well as two incidents: One in which they behaved consistently with their personality traits, and the other in which they behaved inconsistently with their personality traits. Two of the five predicted significant effects for Study 1 were obtained: Individualists gave more general descriptions of their personalities than collectivists when describing the incident in which they behaved consistently with their perceived personality traits, and individualists gave more situation-specific descriptions of their personalities than collectivists when describing the incident in which they behaved inconsistently with their personalities. These findings are consistent with the arguments posed by Choi and Nisbett (1998) regarding culture's influence on such phenomena as lay dispositionism, the correspondence bias, and the fundamental attribution error. Specifically, these results suggest that individualists are more likely than collectivists to interpret their past behaviors according to the traits they believe they have. Personality traits may be viewed by individualists as characteristics that make them unique and autonomous (Markus & Kitayama, 1998). Therefore, past behaviors that are consistent with one's perceived traits may be used by individualists to emphasize their individuality, a motive common to those with independent self-construals (Markus & Kitayama, 1991). Conversely, past behaviors that are inconsistent with one's perceived traits may threaten individualists' sense of uniqueness and autonomy. They may therefore emphasize the situation as a means to protect their beliefs about the strength and consistency of their traits.

The lack of significant results in Study 1 for collectivists may simply suggest that collectivists do not reference their personality traits, whether general or situation-specific,

when interpreting past behaviors. Although in Study 1 collectivists were expected to give more situation-specific trait descriptions in two of the three essays, the null effects can still be viewed as being consistent with some of the self-construal literature. For example, Markus and Kitayama (1991) argue that people with interdependent self-construals have self-effacing motivation strategies. Rather than focusing on their assets as a means to promote themselves, they focus on their weaknesses as a means to improve themselves. It may be that highlighting one's traits when explaining past behavior is viewed by collectivists as a form of self-promotion. If collectivists do not want portray themselves as unique or independent, then they may tend to avoid interpreting past behaviors within the context of their personalities. Future research should further explore I/C differences in referencing personality traits when explaining behaviors.

The results of Study 1 may also be relevant to Toomela' a (2003) critique of the research supporting the universality of the Five-Factor Model. He argued that the participants in most cross-cultural studies supporting the construct validity of the Big Five had relatively high levels of cognitive ability, education, and exposure to Western scientific thinking compared to the general populations of the countries from which the samples were drawn. These characteristics may increase the likelihood of replicating the five-factor structure. He also noted that many of the Five-Factor Model replication studies in non-Western cultures found the five dimensions to be much more closely related to one another than similar studies conducted in the U.S. and Western Europe. One argument supporting Toomela's (2003) observations is that people in individualistic cultures may interpret their behaviors as reflections their personalities. As Study 1 suggests, individualists may be more likely than collectivists to consider how their

personalities relate to their behaviors. Consequently, collectivists' conceptualizations of their own personalities may be less elaborate and complex than those of individualists. If this is the case, then one may not expect to attain a five-factor structure in collectivist cultures as well developed as those obtained in individualist cultures. This may be why some researchers have had more difficulty with cleanly replicating the five-factor structure in Eastern cultures (e.g., Church & Katigback, 1998; Cheung et. al., 2001; Naraynan et. al, 1995; Yang & Bond, 1990; Yoon et. al. 2004). Future research should further examine whether believing that one's behavior reflects one's personality is related to how well the five-factor structure can be replicated.

Other important findings in the present research include the main effects obtained for the personality measures used as predictors in Studies 2 and 4. In Study 2, all five personality subscales significantly predicted their corresponding similarity ratings. This suggests that the trait adjectives derived from Saucier (1998) used in the similarity ratings adequately represented the five dimensions. Therefore, these ratings may be improved by changing the amount or type of contextual information while keeping the trait adjectives the same. Doing so may enable future researchers to obtain the predicted interaction effects such that the personality subscales predict the ratings more accurately for individualists than for collectivists.

Similarly, in Study 4 there were main effects for Extraversion for both the male and combined male/female analyses in predicting extraverted behavior. These effects corroborate the findings from Funder, Furr, and Colvin (2000) that show the behaviors observed are representative of Extraversion as measured by the NEO-PI-R. However, the fact these significant main effects were obtained in a structured role play imply that that

extraverted behaviors can be observed in multiple contexts. Thus, future research may be able to observe extraverted behaviors in other types of social interactions for assessing predictive validity. Nevertheless, many behaviors from Funder and colleague's (2000) original list had to be omitted due to inappropriateness to the role play or lack of reliability. This suggests that the number of extraverted behaviors that are relevant to a given social situation may vary considerably. If this is true for other Big Five dimensions, then assessing the predictive validity of Big Five traits may depend on identifying behavioral correlates of the five factors that apply to social contexts of interest.

A similar issue is that in the present research, the only study that measured behavior (Study 4) focused on just one of the five dimensions of the Five-Factor Model – Extraversion. As Pytlik-Zillig and colleagues (2002) noted, only the Extraversion and Conscientiousness subscales of the Big Five may have enough behavioral content for researchers to find corresponding behavioral correlates. If this is the case, then future researchers may have considerable difficulty assessing the predictive validity of Agreeableness, Openness, and Neuroticism unless the commonly used subscales for these dimensions are changed to include more behavioral content. More research is clearly needed on finding more behavioral correlates of all five dimensions, as well as on addressing the issue of increasing the behavioral content of Big Five inventories. This endeavor may be very challenging given the general lack of behavioral research on the Big Five, even within the United States. The Five-Factor Model is based predominantly on questionnaire data and will continue to be until prediction of behavior – rather than description of trait structure – becomes a more important objective.

The present research also obtained one significant finding that was contrary to hypotheses. This was the I/C X Conscientiousness two-way interaction obtained in Study 2 for predicting the Conscientiousness similarity rating. This finding suggests that the Conscientiousness subscale was a better predictor of the context-rich similarity rating for collectivists than for individualists. As mentioned previously, the group project described in the similarity rating, as well as the pervasiveness of Conscientiousness in collectivist cultures may have contributed to this result. This could be examined further by comparing how Conscientiousness predicts behavior in group versus individual tasks among collectivists. Judging from the significant interaction effect in Study 2, collectivists' trait-behavior associations may be stronger in group tasks, which would support the main hypothesis that context affects the predictive validity of the Big Five for collectivists.

One limitation to the present research, as well as most other studies on the Big Five, is that the five traits are always isolated and examined one at a time rather than in interaction with one another. Peoples' personalities are complex, and it would be greatly insightful to learn how behavior is affected when the interaction of several of the Big Five traits are taken into account. Given the relatively sparse research on behaviors related to the Big Five, this endeavor may not be pursued for some time. However, the growing interest in the relationship between culture and the Big Five may encourage more researchers to investigate behavioral expressions of the five-factor structure across cultures. Perhaps the best way to approach this task is to utilize what we know from the cross-cultural literature to develop sound research questions regarding how culture will

influence the Five-Factor Model. Future studies should examine how other cultural constructs besides I/C (perhaps power distance or tightness/looseness) affect personality.

Studies 3 and 4 focused on social roles and how they may interact with I/C and personality traits in predicting behaviors. Although the main hypotheses in these two studies were not supported, social roles may still be viable contextual variables to examine for assessing cultural differences in predicting behaviors. Because social roles are embedded within relationships and involve duties and obligations to others, they take time to develop and are therefore difficult to recreate in a laboratory. Nevertheless, researchers can ask people directly about the importance of social roles in their lives, how differently they behave in the various social roles they play, and whether social roles help them interpret and understand their behavior. Using this type of approach for future studies investigating social roles may help researchers uncover how social roles, personality, and behaviors may be interrelated.

Other issues regarding culture in the present research are important to note. For example, this research was conducted in the United States, a country with a highly individualistic culture. This could have resulted in a sample that does not adequately represent collectivists. Even for those participants who came from collectivist cultures, norms and customs may change with acculturation, and collectivists who have become accustomed to U.S. culture may not behave according the norms and roles they no longer find adaptive.

A similar issue is that the samples for these studies came from a very diverse student population that contains large numbers of recent immigrants from Eastern Europe, Asia, and many other parts of the world. In contrast, many of the cross-cultural

studies cited in the literature review drew homogenous samples from different geographical locations that were assumed to represent individualist versus collectivist cultures. As mentioned previously, there is vast body of research on individualism and collectivism spanning over 25 years, yet there are still many inconsistencies in how researchers choose to represent these constructs in their studies (Oyserman, Coon, & Kemmelmeier 2002). These differences in operationalizing individualism and collectivism make it more difficult to achieve consistent results and may have contributed to some of the null effects obtained in these studies. Nevertheless, it seemed most appropriate to assess individual differences in I/C orientation given that the present research was investigating personality traits (Toomela, 2003).

Further inquiries should also be made on the meaning of the Big Five in collectivist cultures. While individual differences clearly exist among collectivists, collectivist cultures may still minimize the influence of individual differences in determining behaviors. Thus, the extent to which a culture allows personality traits to be expressed in its values, social norms, and customs may still be a worthwhile line of future research. Although all behavior has innate and environmental influences, the proportion of variance in behavior that is attributable to one of these versus the other may change as a function of culture. Before asking how culture changes the way personality traits are expressed, it may be more appropriate to ask if culture determines the extent to which personality traits are expressed.

Table 1

Summary of Correlations of Individualism/Collectivism and the Number of General and Specific Trait Descriptions for Essays 1, 2, and 3, Study 1 (N = 66)

	General	Specific
Essay 1 - Describe your personality	.13	.07
Essay 2 - Incident consistent with personality	-.25*	-.02
Essay 3 - Incident inconsistent with personality	-.02	-.28*

*p < .05

Table 2

Summary of Hierarchical Regression Analyses for Individualism/Collectivism and Big Five Personality Dimensions Predicting Similarity Ratings, Study 2 (N = 86)

	B	*SE B*	β
Agreeableness Similarity Rating			
Step 1			
Agreeableness (modified scale)	.06	.03	.23*
Individualism/Collectivism	.38	.09	.45**
Step 2			
Agreeableness-I/C Interaction	-.01	.01	-.52
Conscientiousness Similarity Rating			
Step 1			
Conscientiousness	.07	.01	.55**
Individualism/Collectivism	.11	.06	.16
Step 2			
Conscientiousness-I/C Interaction	.02	.01	1.26*
Extraversion Similarity Rating			
Step 1			
Extraversion (modified scale)	.10	.02	.53**
Individualism/Collectivism	-.07	.07	-.10
Step 2			
Extraversion-I/C Interaction	-.01	.01	-.30

*p < .05 **p < .01

Table 2 (Continued)

	B	*SE B*	β
Neuroticism Similarity Rating			
Step 1			
Neuroticism (modified scale)	.13	.02	.59**
Individualism/Collectivism	-.08	.08	-.09
Step 2			
Neuroticism-I/C Interaction	-.01	.01	-.13
Openness Similarity Rating			
Step 1			
Openness	.05	.02	.31**
Individualism/Collectivism	.16	.07	.23*
Step 2			
Openness-I/C Interaction	.01	.01	.29

*p < .05, **p < .01

β (Beta weight) = Expected change in the dependent variable, expressed in standard scores, associated with a change in one standard deviation in an independent variable, while holding the remaining independent variables constant

Table 3

Summary of Correlations of Individualism/Collectivism and the Averaged Likeliood/Believability Ratings for Stories 1 (Extraversion), 2 (Agreeableness), and 3(Conscientiousness), Study 3, (N = 108)

Averaged L/B Responses	Story 1 (E)	Story 2 (A)	Story 3 (C)
No ending (Social Role)	-.15	.09	.04
No ending (Personality)	-.08	.00	.00
Ending 1 (Social Role)	.02	.12	.03
Ending 2 (Personality)	00	.05	.09

Table 4

Summary of Hierarchical Regression Analyses for Individualism/Collectivism, Extraversion, and Social Role Condition Predicting Female and Male Extraverted Behaviors, Study 4

	B	*SE B*	β
Female Extraverted Behaviors (Mean of 5 female ratings, N = 98)			
Step 1			
Extraversion	.01	.01	.12
Individualism/Collectivism	-.27	.08	-.31**
Social Role Condition	.37	. 20	.18
Step 2			
Extraversion-I/C Interaction	.00	.00	.17
Extraversion-Social Role Interaction	.01	.01	.78
I/C-Social Role Interaction	-.05	.17	-.05
Step 3			
Extraversion-I/C-Social Role Interaction	.01	.01	-1.11
Male Extraverted Behaviors (Mean of 11 male ratings, N = 100)			
Step 1			
Extraversion	.01	.00	.31**
Individualism/Collectivism	-.03	.07	-.04
Social Role Condition	.27	.19	.14
Step 2			
Extraversion-I/C Interaction	.00	.00	.63
Extraversion-Social Role Interaction	.01	.01	.82
I/C-Social Role Interaction	.11	.16	.11
Step 3			
Extraversion-I/C-Social Role Interaction	.00	.01	.70

*p < .05, **p < .01

β (Beta weight) = Expected change in the dependent variable, expressed in standard scores, associated with a change in one standard deviation in an independent variable, while holding the remaining independent variables constant

Table 5

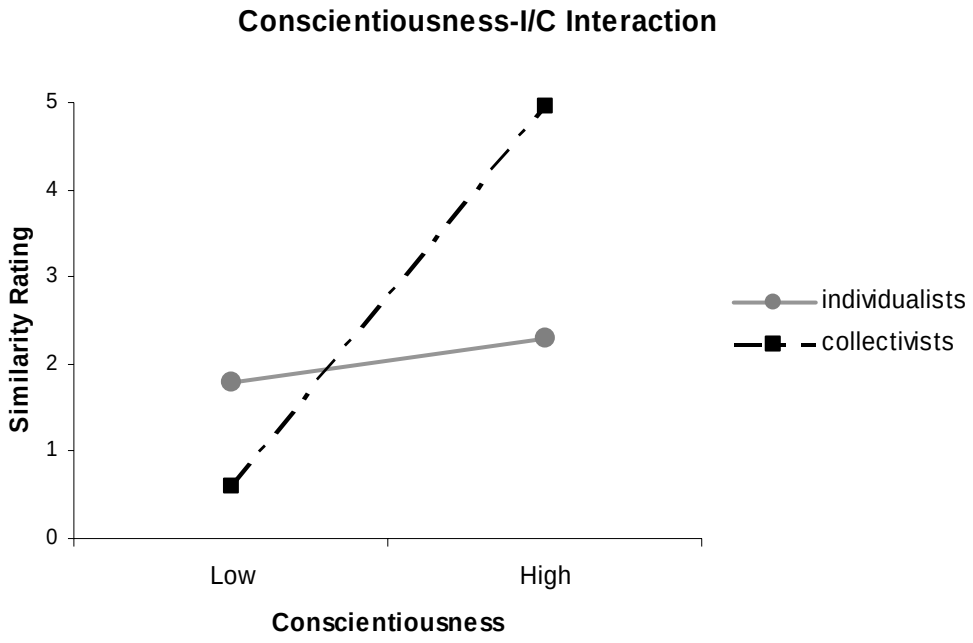
Summary of Hierarchical Regression Analyses for Individualism/Collectivism, Extraversion, and Social Role Condition Predicting Male/Female Combined Extraverted Behaviors, Study 4

	B	*SE B*	β
Extraverted for both Sexes (Mean of 4 ratings, N = 198)			
Step 1			
Extraversion	.01	.00	.20**
Individualism/Collectivism	-.10	.06	-.13
Social Role Condition	.31	.14	.15*
Step 2			
Extraversion-I/C Interaction	.00	.00	.03
Extraversion-Social Role Interaction	.01	.01	.90
I/C-Social Role Interaction	.13	.12	.11
Step 3			
Extraversion-I/C-Social Role Interaction	.00	.00	.05

*p < .05, **p < .01

β (Beta weight) = Expected change in the dependent variable, expressed in standard scores, associated with a change in one standard deviation in an independent variable, while holding the remaining independent variables constant

Figure 1. Individualism/Collectivism and Conscientiousness Interaction for Conscientiousness Similarity Rating, Study 2.



Appendix A: Individualism/Collectivism Questionnaire, Study 1

This questionnaire is anonymous, and there are no right or wrong answers. We want to know if you strongly agree or disagree with the statements below. If you strongly agree circle "5" on the scale following the question. If you strongly disagree, circle "1." If you are unsure or think the question does not apply to you, circle "3." When the word "group" is mentioned in any of the statements, it refers to your group of friends, family, or any other group in which you are actively involved.

1. I prefer to be direct and forthright when I talk to people. (I)

2. My happiness depends very much on the happiness of those around me. (C)

3. I would do what would please my family, even if I detested that activity. (C)

4. Winning is everything. (I)

5. One should live one's life independently of others. (I)

6. What happens to me is my own doing. (I)

7. I usually sacrifice my self-interest for the benefit of my group. (C)

8. It annoys me when other people perform better than I do. (I)

9. It is important for me to maintain harmony within my group. (C)

10. It is important to me that I do my job better than others. (I)

11. I like sharing little things with my neighbors. (C)

12. I enjoy working in situations involving competition with others. (I)

13. We should keep our aging parents with us at home. (C)

14. The well-being of my coworkers is important to me. (C)

15. I enjoy being unique and different from others in many ways. (I)

16. If a relative were in financial difficulty, I would help within my means. (C)

17. Children should feel honored if their parents receive a distinguished award. (C)

18. I often do "my own thing." (I)

19. Competition is the nature of law. (I)

20. If a coworker gets a prize, I would feel proud. (C)

21. I am a unique individual. (I)

22. To me, pleasure is spending time with others. (C)

23. When another person does better than I do, I get tensed and aroused. (I)

24. I would sacrifice an activity that I enjoy very much if my family did not approve of it. (C)

25. I like my privacy. (I)

26. Without competition it is not possible to have a good society. (I)

27. Children should be taught to place duty before pleasure. (C)

28. I feel good when I cooperate with others. (C)

29. I hate to disagree with others in my group. (C)

30. Some people emphasize winning; I am not one of them. (I – reverse-scored)

31. Before taking a major trip, I consult with most members of my family and many friends. (C)

32. When I succeed, it is usually because of my abilities. (I)

Appendix B: NEO Five-Factor Inventory

This questionnaire contains 60 statements that are each followed by a response scale numbered from 1 (strongly disagree) to 5 (strongly agree). Read each item carefully and circle the number on the scale that best corresponds with your agreement or disagreement. If the statement is about equally true or false, circle "3." Please answer all items. There are no right or wrong answers, so please answer the questions as honestly and accurately as possible.

1. I am not a worrier. (N – reverse-scored)

2. I like to have a lot of people around me. (E)

3. I don't like to waste my time daydreaming. (O – reverse-scored)

4. I try to be courteous to everyone I meet. (A)

5. I keep my belongings neat and clean. (C)

6. I often feel inferior to others. (N)

7. I laugh easily. (E)

8. Once I find the right way to do something, I stick to it. (O – reverse-scored)

9. I often get into arguments with my family and co-workers. (A – reverse-scored)

10. I'm pretty good about pacing myself so as to get things done on time. (C)

11. When I'm under a great deal of stress, sometimes I feel like I'm going to pieces. (N)

12. I don't consider myself especially "light hearted." (E – reverse-scored)

13. I am intrigued by the patterns I find in art and nature. (O)

14. Some people think I'm selfish and egotistical. (A – reverse-scored)

15. I am not a very methodical person. (C – reverse-scored)

16. I rarely feel lonely or blue. (N – reverse-scored)

17. I really enjoy talking to people. (E)

18. I believe letting students hear controversial speakers can only confuse and mislead them. (O – reverse-scored)

19. I would rather cooperate with others than compete with them. (A)

20. I try to perform all the tasks assigned to me conscientiously. (C)

21. I often feel tense and jittery. (N)

22. I like to be where the action is. (E)

23. Poetry has little or no effect on me. (O – reverse-scored)

24. I tend to be cynical and skeptical of others' intentions. (A – reverse-scored)

25. I have a clear set of goals and work towards them in an orderly fashion. (C)

26. Sometimes I feel completely worthless. (N)

27. I usually prefer to do things alone. (E – reverse-scored)

28. I often try new and foreign foods. (O)

29. I believe that most people will take advantage of you if you let them. (A – reverse-scored)

30. I waste a lot of time before settling down to work. (C – reverse-scored)

31. I rarely feel fearful or anxious. (N – reverse-scored)

32. I often feel as if I'm bursting with energy. (E)

33. I seldom notice the moods or feelings that different environments produce. (O – reverse-scored)

34. Most people I know like me. (A)

35. I work hard to accomplish my goals. (C)

36. I often get angry at the way people treat me. (N)

37. I am a cheerful, high-spirited person. (E)

38. I believe we should look at our religious authorities for decisions on moral issues. (O – reverse-scored)

39. Some people think of me as cold and calculating. (A – reverse-scored)

40. When I make a commitment, I can always be counted on to follow through. (C)

41. Too often, when things go wrong, I get discouraged and feel like giving up. (N)

42. I am not a cheerful optimist. (E – reverse-scored)

43. Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement. (O)

44. I'm hard-headed and tough-minded in my attitudes. (A – reverse-scored)

45. Sometimes I'm not as dependable or reliable as I should be. (C – reverse-scored)

46. I am seldom sad or depressed. (N – reverse-scored)

47. My life is fast-paced. (E)

48. I have little interest in speculating on the nature of the universe or the human condition. (O – reverse-scored)

49. I generally try to be thoughtful and considerate. (A)

50. I am a productive person who always gets the job done. (C)

51. I often feel helpless and want someone else to solve my problems. (N)

52. I am a very active person. (E)

53. I have a lot of intellectual curiosity. (O)

54. If I don't like people, I let them know it. (A – reverse-scored)

55. I never seem to be able to get organized. (C – reverse-scored)

56. At times I have been so ashamed I just wanted to hide. (N)

57. I would rather go my own way than be a leader of others. (E – reverse-scored)

58. I often enjoy playing with theories or abstract ideas. (O)

59. If necessary, I am willing to manipulate people to get what I want. (A – reverse-scored)

60. I strive for excellence in everything I do. (C)

Appendix C: Study 2 Personality Similarity Rating Task

On the next two pages, there are descriptions of five different people, each in a different situation. Every description is followed by a rating scale. Based on the information provided, please rate how similar you think your personality is to the person described. Please rate yourself as honestly and accurately as possible. There are no right or wrong answers.

Description 1

Daryl was having a bad day. He woke up late. The train was delayed while he was on his way to class. While standing on a corner waiting to cross the street, a nearby car drove over a puddle and got his clothes wet. It also seemed to him like people were not being nice to him that day. On his way home, someone cut in front of him on the train and took the seat he wanted. However, Daryl kept his cool the whole time. He never let any of these things bother him. He kept on smiling and being nice to people. He figured he is better off avoiding confrontations. Even though he got annoyed, he wanted to remain friendly, kind, and considerate to others. He even helped an elderly woman carry her bags up the stairs while she was exiting the subway.

Based on this information, how similar do you think your personality is to Daryl's?

Not at all similar 1 2 3 4 5 *Very similar*

Description 2

While working on a group project, Mary made sure she kept all her notes organized and orderly and was very well prepared during group meetings. The group members were surprised by how dedicated she was to doing a good job on the project and to make sure the project was going well. She even put together a very detailed schedule that broke the work down into smaller goals so that it would be easy for the group to assess their progress. During the group meetings, Mary was the most productive one of the group and stayed on task the whole time. She never arrived late to a meeting and did more work than the other group members.

Based on this information, how similar do you think your personality is to Mary's?

Not at all similar 1 2 3 4 5 *Very similar*

Description 3

Bill went out to dinner with a group of his friends recently. During dinner, Bill was often cracking jokes and making people laugh. He seemed to put the group in a good mood by being very entertaining and talkative. After the dinner was finished, people wanted to continue hanging out because Bill created a positive mood and was so full of energy. He talked with everyone and just seemed to create a good time.

Based on this information, how similar do you think your personality is to Bill's?

Not at all similar 1 2 3 4 5 *Very similar*

Description 4

Recently, Mark didn't do as well on a test as he would have liked. He also got into an argument with a friend of his. This made him feel depressed and anxious. A while later, another friend of his invited him to play basketball, but he refused because he felt very insecure about his athletic abilities. When thinking about these incidents, Mark felt very little confidence in himself and began to feel worried and afraid about these unpleasant thoughts. During this time people noticed that he looked kind of moody and troubled.

Based on this information, how similar do you think your personality is to Mark's?

Not at all similar 1 2 3 4 5 *Very similar*

Description 5

Jill went on a backpacking trip through Europe. She really enjoyed herself because she was able to see so many things that stirred her imagination. She went to many museums and cathedrals that really impressed her and induced some very strong emotions. She loved satisfying her curiosity about the different customs and cultures she encountered. She got excited about trying new foods and learning new languages. Throughout the whole trip, she was able to keep an open mind and not judge other people according to her own values. Overall, she feels the trip was one of the best things she ever did because she was able to learn so much about things should have never encountered otherwise.

Based on this information how similar do you think your personality is to Jill's?

Not at all similar 1 2 3 4 5 *Very similar*

Appendix D: First of three Likelihood and Believability Rating Tasks for Study 3

STORY 1

Background Information

It has been previously shown that the most successful attorneys have certain personality characteristics. They tend to be talkative, outgoing, aggressive, and confident. They also tend to be adventurous, sociable, and intelligent. These characteristics make successful attorneys because representing individuals in a court of law requires good presentational skills and being able to perform well in front of others and under pressure. Although not all successful attorneys have these personality traits, those who do are more likely to acquire the skills necessary to succeed in practicing law.

Ever since Darin was a young boy, both his mother and father have encouraged him to become a lawyer. For generations, most of his family members have held blue-collar jobs, and Darin's parents believe he will be the first to break the family free from its working-class status. Darin is very bright and has excelled in school, and his parents believe he will be a very successful attorney. Therefore, they spent a great deal of time and money helping Darin get into a good law school. For example, they enrolled him in a preparation course for the LSTAT exam, they bought him a reference book containing information and tips for applying to top law programs, and they helped him complete more than twenty applications to different schools across the U.S. These efforts paid off. Darin was accepted to a school that was among the top five of those to which he applied.

Below is a description of Darin's personality, as well as some information about his relationship with his parents. After you read the information presented, you will be rating the likelihood and believability that Darin will finish law school and become a successful attorney and also the likelihood and believability that Darin will not go to law school and instead pursue a different career. Please read the information carefully. Take into consideration the personality characteristics already mentioned that usually make up successful attorneys. Also make note of Darin's personality characteristics described below, what his career preferences are, and the nature of his relationship to his parents.

Darin's Personality

Darin has always been a shy person. When in the presence of a group, he typically does not talk very much. He prefers to sit and home and read or watch movies than to go out and socialize with others. To many people, Darin appears secretive and cautious. This is because he keeps to himself and does not try new things very often. Darin usually does what others want rather than making decisions for himself. While Darin does not mind the company of others, many people believe he is cold or unfriendly because he does not start conversations very often and frequently appears aloof or distant. Darin is an honest person, but most people who don't know him well think he is not very open or frank.

If Darin decides to go to law school and become an attorney, he would have to learn to behave differently on the job from how he has behaved in the past. That is, he will have to become more assertive, confrontational, and confident; he will have to become comfortable speaking in front of others; and he will have to become less cautious and secretive and present himself as more forthright and frank in front of others. Moreover, these changes will have to be longstanding. Rather than having to behave differently in response to an isolated incident, this is a career choice whereby these new behaviors must be performed daily in order to be successful. In other words, if Darin is to pursue a successful career in law, he will probably have to change the patterns of behavior that make up his personality while he is on the job.

Directions: Based on the information you have read so far, please answer the following questions by circling the appropriate number on the scale.

How likely is Darin to finish law school and practice law successfully?

Not at all likely 1 2 3 4 5 *Very likely*

How believable is it for Darin to finish law school and practice law successfully?

Not at all believable 1 2 3 4 5 *Very believable*

How likely is it for Darin to decide not to attend law school and instead pursue a different type of career?

Not at all likely 1 2 3 4 5 *Very likely*

How believable is it for Darin to decide not to attend law school and instead pursue a different type of career?

Not at all believable 1 2 3 4 5 *Very believable*

Below are some hypothetical descriptions of what Darin does after finding out he was accepted to law school. Below each description, please rate how likely and how believable that description of Darin's behavior is to you on the scales provided.

Response 1

Darin finishes law school and becomes an attorney. He overcomes his fear of presenting in front of others and develops good speaking skills. Darin learns to become more assertive and appears more direct and open in front of others while performing his job. He is able to demonstrate these new behavior patterns consistently and over a long period of time, which enables him to maintain a successful career as an attorney.

How likely is it that Darin will display the behaviors described in this scenario?

Not at all likely 1 2 3 4 5 *Very likely*

How believable is it that Darin will display the behaviors described in this scenario?

Not at all believable 1 2 3 4 5 *Very believable*

Response 2

Darin attends law school but has a very difficult time. Although he gets a lot of practice presenting in front of others, it doesn't get any easier for him. He finishes the program, but because he never really sharpened his social skills or boosted his confidence, he did not acquire the necessary skills to practice law successfully. He remained shy and aloof on the job, and therefore his career was not very successful. Eventually, he changed careers.

How likely is it that Darin will display the behaviors described in this scenario?

Not at all likely 1 2 3 4 5 *Very likely*

How believable is it that Darin to will display the behaviors described in this scenario?

Not at all believable 1 2 3 4 5 *Very believable*

Appendix E: NEO-PI-R Extraversion Scale

This questionnaire contains 48 statements that are each followed by a response scale numbered from 1 (strongly disagree) to 5 (strongly agree). Read each item carefully and circle the number on the scale that best corresponds with your agreement or disagreement. If the statement is about equally true or false, circle "3." Please answer all items. There are no right or wrong answers, so please answer the questions as honestly and accurately as possible.

1. I really like most people I meet.

2. I shy away from crowds of people. (Reverse-scored)

3. I am dominant, forceful, and assertive.

4. I have a leisurely style in work and play. (Reverse-scored)

5. I often crave excitement.

6. I have never literally jumped for joy. (Reverse-scored)

7. I don't get much pleasure from chatting with people. (Reverse-scored)

8. I like to have a lot of people around me.

9. I sometimes fail to assert myself as much as I should. (Reverse-scored)

10. When I do things, I do them vigorously.

11. I wouldn't enjoy vacationing in Las Vegas. (Reverse-scored)

12. I have sometimes experienced intense joy or ecstasy.

13. I'm known as a warm and friendly person.

14. I usually prefer to do things alone. (Reverse-scored)

15. I have often been a leader of groups I have belonged to.

16. My work is likely to be slow but steady. (Reverse-scored)

17. I have sometimes done things just for "kicks" or "thrills."

18. I am not a cheerful optimist. (Reverse-scored)

19. Many people think of me as somewhat cold and distant. (Reverse-scored)

20. I really feel the need for other people if I am by myself for long.

21. In meetings, I usually let others do the talking. (Reverse-scored)

22. I often feel as if I'm bursting with energy.

23. I tend to avoid movies that are shocking or scary. (Reverse-scored)

24. Sometimes I bubble with happiness.

25. I really enjoy talking to people.

26. I prefer jobs that let me work alone without being bothered by other people. (Reverse-scored)

27. Other people often look to me to make decisions.

28. I'm not as quick and lively as other people. (Reverse-scored)

29. I like to be where the action is.

30. I don't consider myself especially "light-hearted." (Reverse-scored)

31. I find it easy to smile and be outgoing with strangers.

32. I'd rather vacation at a popular beach than an isolated cabin in the woods.

33. I would rather go my own way than be a leader of others. (Reverse-scored)

34. I usually seem to be in a hurry.

35. I love the excitement of roller coasters.

36. I am a cheerful, high-spirited person.

37. I have strong emotional attachments to my friends.

38. Social gatherings are usually boring to me. (Reverse-scored)

39. In conversations, I tend to do most of the talking.

40. My life is fast-paced.

41. I'm attracted to bright colors and flashy styles.

42. I rarely use words like “fantastic!” or “sensational!” to describe my experiences. (Reverse-scored)

43. I take a personal interest in the people I work with.

44. I enjoy parties with lots of people.

45. I don’t find it easy to take charge of a situation. (Reverse-scored)

46. I am a very active person.

47. I like being part of the crowd at sporting events.

48. I laugh easily.

Appendix F: Job Posting for Study 4.

Northwest Manufacturing Company seeks an experienced accounting supervisor with a solid manufacturing background to supervise the accounting department. This person will be responsible for all accounting activity and financial reporting, will work closely with outside department managers and plant personnel, and will supervise a staff of 2-3.

PRIMARY DUTIES AND ACCOUNTABILITIES:

- Maintaining general ledger by preparing, reviewing and posting monthly journal entries to the general ledger.
- Preparing monthly financial statements, cost reporting, and variance analysis.
- Identifying, proposing and implementing process improvements that enhance the accounting and finance operations.
- Provide supervision/management of plant accounting staff - accounts payable, accounts receivable and payroll functions. Develop and monitor the progress of staff to ensure key responsibilities are executed.
- Assist external auditors during annual audit.
- Assist Division Controller in the preparation of the annual budget and quarterly forecasts.

EXPERIENCE AND EDUCATIONAL REQUIREMENTS:

- Bachelor's degree in Accounting, 5+ years experience in a manufacturing plant environment, strong cost accounting experience and 3+ years supervisory experience.
- Excellent people skills with the ability to communicate effectively, both verbally and in writing.
- Exceptional computer skills with strong background in Excel and ERP accounting software. TCM/EMS experience is a plus.

Appendix G: Resume for Study 4.

OBJECTIVE

Seeking a management level accounting position

EDUCATION

Bachelor of Science in Accounting **June, 1995**
WASHINGTON STATE UNIVERSITY
Overall GPA: 3.8/4.0 Accounting GPA: 3.9/4.0

Master of Science in Business Administration **June, 1997**
UNIVERSITY OF COLORADO
Overall GPA: 3.9/4.0

COMPUTER SKILLS

Windows Word Excel SPSS ERP TCM EMS

EXPERIENCE

6/99-Present **Supervising Accountant**, BERNARD MANUFACTURING COMPANY, Tacoma, WA

- Oversee team of 3 accountants for monthly and quarterly financial reporting
- Work within a committee to complete external auditing
- Review and adjust clients' general ledgers
- Prepare sales and quarterly payroll tax reports

7/97-5/99 **Accountant**, KENT BROTHERS ACCOUNTING FIRM, Denver, CO

- Assisted with completing general ledgers
- Completed accounts payable, receivable, and payroll
- Prepared tax reports

6/97-7/97 **Accounting Intern**, EARL MANUFACTURING PLANT, Tacoma, Washington

- Assisted with completing audits, tax reports, and general ledgers
- Assisted with preparing quarterly and yearly budgets

PROFESSIONAL DEVELOPMENT

Certified Public Accountant since 8/98
Accounting Association Member

HONORS & ACTIVITIES

Deans List, five semesters
Treasurer of Accounting Association from 1997 to 1998

Appendix H: Riverside Behavioral Q-Sort Items Significantly Correlated ($p < .05$) with NEO-PI-R Extraversion Scale for Males and Females

Males		**Females**	
RBQ Item	r	RBQ Item	r
Acts playful	.42	Competes with partner	.32
Seems to enjoy the interaction	.41	**Initiates humor**	.32
Initiates humor	.39	Speaks in a loud voice	.26
Exhibits social skills	.38	**Shows enthusiasm/energy**	.24
Is talkative	.38	**Is physically animated**	.23
Seems to like partner	.37	**Expresses insecurity**	-.41
Behaves in a cheerful manner	.35	Shows self-pity/victimization	-.35
Shows enthusiasm/energy	.32	**Behaves in a fearful/timid way**	-.33
Is expressive in face, voice, or gestures	.31	**Expresses guilt**	-.33
Says or does interesting things	.30	Seeks reassurance from partners	-.26
Positive affect with partner	.27	**Expresses criticism**	-.25
Is physically animated	.26	Shows awkward interpersonal style	-.24
Seems likeable	.23	**Gives up when faced with obstacles**	-.22
Expresses criticism	-.44		
Seems detached from the interaction	-.42		
Gives up when faced with obstacles	-.41		
Is reserved and unexpressive	-.40		
Acts irritated	-.39		
Keeps partners at a distance	-.37		
Shows physical signs of tension or anxiety	-.34		
Talks at rather than with partners	-.31		
Expresses insecurity	-.30		
Exhibits awkward interpersonal style	-.30		
Behaves in a fearful/timid way	-.29		
Blames others (for anything)	-.28		
Exhibits condescending behavior	-.28		
Expresses guilt	-.25		

Bold items are significant in both sexes

Appendix I: Study 4 Instructions for Coding of Extraverted Behaviors

Start the coding procedure by reading the list of behaviors that you will be rating. Then watch the entire videotape to familiarize yourself with the participant's behavior. Next, watch the tape again, paying particular attention to any questions or uncertainties you may have about any of the behaviors you will be rating. After viewing the tape the second time, begin coding by reading each behavior and circling the appropriate number on the scale provided. If the behavior describes the subject in the opposite direction to the way the item is worded, circle "-2," for *negatively characteristic*. If the behavior very accurately describes the participant, circle "2" for *highly characteristic*. Items that do not seem relevant should go into the middle category (0). You may go back and view the videotape a third time if you feel that it is necessary to answer a particular item.

Two important notes about how to rate the behaviors:

(1) We are trying to characterize fairly directly the *behavior that can be seen in the videotape*. So, as much as possible, avoid drawing inferences about characteristics or intentions of the participants that are not directly visible. Direct statements of feelings such as guilt, insecurity, or confidence should be taken at face value, and such feelings should not be inferred in the absence of direct statements or other visible evidence.

(2) Ratings should be made according to their importance in distinguishing this participant's behavior from the behavior of the other participants on the other tapes of the same situation. Thus, items should receive very high (or low) placement primarily to the degree that they serve to distinguish or set apart this participant's behavior from that of the other participants. This means that some experience with the range of behavior seen is necessary before one can begin sorting.

Appendix J: Study 4 Final Behaviors Rating Items and their Reliability Coefficients (Correlations were conducted on 27 paired ratings for males and 29 paired ratings for females)

Males	**r**
1. **Expresses insecurity**	**.80**
2. **Behaves in a fearful/timid way**	**.69**
3. **Shows awkward interpersonal style**	**.73**
4. **Is physically animated**	**.89**
5. **Acts playful**	**.82**
6. **Seems to enjoy the interaction**	**.72**
7. **Exhibits social skills**	**.79**
8. **Is talkative**	**.73**
9. **Is expressive in face, voice, gestures**	**.76**
10. **Says or does interesting things**	**.76**
11. **Seems likeable**	**.62**
Females	
1. **Expresses insecurity**	**.69**
2. **Behaves in a fearful/timid way**	**.66**
3. **Shows awkward interpersonal style**	**.66**
4. **Is physically animated**	**.84**
5. **Speaks in a loud voice**	**.83**

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