

AFFORDANCE OF PERSONALITY TRAITS IN INTERDEPENDENCE SITUATIONS

Andrew J. Rea

A dissertation submitted to the faculty of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Psychology.

Chapel Hill  
2009

Approved by:

Chair: Dr. Chester A. Insko

Reader: Dr. B. Keith Payne

Reader: Dr. Lawrence J. Sanna

Reader: Dr. Abigail T. Panter

Reader: Dr. Melanie C. Green

## ABSTRACT

ANDREW J. REA: Affordance of Personality Traits in Interdependence Situations  
(Under the direction of Dr. Chester A. Insko)

Two studies investigated the differential perceived affordance of personality traits in two types of abstract situations taken from interdependence theory. A first study addressed perceived affordance of the traits of Honesty/Humility/Virtue and Agreeableness in several relationship scenarios based on matrices from interdependence theory. The two abstract types of interdependence situations used to construct these scenarios were the Prisoner's Dilemma Game (PDG) and the Battle of the Sexes (BOS). Study 1 revealed that Honesty/Humility/Virtue was more relevant to PDG-type scenarios than BOS-type scenarios and Agreeableness was more relevant to BOS-type scenarios than PDG-type scenarios. A second study replicated these results using the actual interdependence matrices themselves. These findings may demonstrate the potential usefulness of interdependence theory in integrating trait and situational approaches to studying personality.

## TABLE OF CONTENTS

	Page
LIST OF TABLES .....	vi
LIST OF FIGURES .....	viii
Chapter	
I. INTRODUCTION .....	1
The lexical hypothesis.....	3
Factor analysis in lexical studies.....	4
Controversy over the fifth factor.....	5
Block's critique .....	6
Ashton and Lee's defense of the lexical approach .....	7
The HEXACO model.....	8
The Dutch-language 8-factor solution .....	10
The situational approach.....	12
Interdependence theory.....	16
Kirchner's study .....	17
II. STUDY ONE .....	19
Hypotheses .....	20
III. METHOD .....	22
Participants.....	22
Materials .....	22

	Interdependence situations.....	22
	Trait measures.....	24
	Procedure .....	24
IV.	RESULTS .....	26
	Reliabilities .....	26
	Combining situation ratings.....	26
	Scale reliabilities.....	26
	Main effects .....	27
	Trait by Situation interaction .....	27
	Other two-way interactions.....	29
V.	DISCUSSION .....	33
	Non-hypothesized findings.....	33
VI.	STUDY TWO.....	35
	Hypotheses.....	35
VII.	METHOD.....	36
	Participants and materials .....	36
	Procedure .....	36
VIII.	RESULTS .....	38
	Scales and reliabilities.....	38
	Gender.....	39
	Main effects .....	39
	Trait by Situation interaction .....	39
	Trait and Trait Valence interaction.....	41

HEXACO-PI-R and SVO .....	42
IX. DISCUSSION.....	44
Main effect .....	44
Trait by Situation interaction .....	45
Strengths and weaknesses .....	46
Future directions .....	46
Broader implications.....	48
Summary.....	49
APPENDICES .....	65
Appendix A.....	65
Appendix B.....	66
Appendix C.....	67
Appendix D.....	68
Appendix E.....	69
Appendix F.....	71
Appendix G.....	72
Appendix H.....	73
REFERENCES .....	74

## LIST OF TABLES

Table	Page
1. Spearman-Brown corrected correlations between scenario ratings as a function of situation and trait from study 1.....	50
2. Cronbach's $\alpha$ coefficient as a function of trait, trait valence, and situation from study 1.....	51
3. Correlations between HEXACO and 8-factor trait relevance measures by situation from study 1.....	52
4. Mean relevance as a function of situation type and trait from study 1.....	53
5. Mean relevance as a function of situation type and trait valence from study 1.....	54
6. Mean relevance as a function of trait and trait valence from study 1.....	55
7. Mean relevance as a function of gender and iteration from study 1.....	56
8. Mean ratings of relevance as a function of trait, trait valence, and situation from study 1.....	57
9. Cronbach's $\alpha$ coefficient as a function of trait, trait valence, and situation from study 2.....	58
10. Correlations between HEXACO and 8-factor trait relevance measures by situation from study 2.....	59
11. Mean relevance as a function of situation type and trait from study 2.....	60

12. Mean relevance as a function of trait and trait valence from study 2.....	61
13. Correlations between HEXACO factors and trait relevance measures from study 2.....	62

## LIST OF FIGURES

Figure	Page
1. PDG matrix.....	63
2. BOS matrix.....	64

## CHAPTER 1

### INTRODUCTION

Interdependence theory (Thibaut & Kelley, 1959; Kelley & Thibaut, 1978; Kelley et al., 2003) describes a method of classifying types of interpersonal situations by their patterns of positive and negative outcomes. The outcomes are represented by numbers arranged in matrices. According to interdependence theorists, these outcomes are inextricably linked to the manner in which they are evaluated by the people interacting, as well as the dispositions of those people (Kelley & Thibaut, 1978). This idea is developed by Kelley and colleagues (2003) in their *Atlas of Interpersonal Situations*. The term “affordance,” coined by Gibson (1979) to imply the complementarity between an animal and its environment, is used to describe how situations may make possible the expression of various personality factors (Kelley et al., 2003). As Baron and Boudreau (1987) point out, this concept may have great utility in integrating the domains of personality and social psychology.

In the context of interdependence theory “affordance” means describing the complementarity of the person (or personality) and the interpersonal situation. Reis (2008) offers a review of research conducted by himself and others (e.g. Tesser, 1988; Reis & Collins, 2004; Reis et al., 2000) summarizing evidence for the “relationship context of behavior (p. 319).” People’s tendencies towards particular actions are dependent on the type of relationship they have with the person with whom they are interacting. If behaviors are interpreted as the expressions of traits, the relationship context of behavior could then be construed as an example of affordance. Interdependence theory could allow for a more

developed framework within which affordance may occur. Take for example, the most well-known of the situations used in interdependence theory, the Prisoners' Dilemma Game (PDG). In the PDG, two people are faced with a choice of trying to cooperate with one another to gain mutual benefit or trying to compete to gain a lopsided benefit at the other's expense (or to defend against the other person's competitive actions). This situation might afford the expression of trustworthiness in choosing to cooperate, dishonesty in attempting to achieve a lopsided benefit, or perhaps neuroticism in attempting to defend against another's actions. It would not necessarily afford one the ability to express diligence or laziness. However, other situations may afford traits that the PDG does not. Research into the interindividual-intergroup discontinuity effect (Wildschut et al., 2003) offers some evidence of the principle of affordance in action. Discontinuity studies most often find that competition in a PDG setting results from the distrust generated when individuals are placed into groups. Distrust is afforded by the PDG situation and when a group happens to distrust another group, it may express that distrust within the context of the PDG. Other situations would not offer the same ability to express that distrust.

Another situation, Battle of the Sexes (BOS), also may afford specific personality traits. In a BOS situation, participants attain the greatest outcomes when their partners also attain fairly high outcomes. There is not much incentive to be competitive in a BOS situation. The only issue is to decide who does the best and who does the second best. Participants must be able to coordinate with their partners to maximize their joint outcomes because no choice offers an opportunity for participants to receive a uniformly high payout. Therefore, agreeableness may be afforded in a BOS situation while trustworthiness becomes relatively less important.

Combining the taxonomy of interpersonal situations created by interdependence theorists (Kelley et al., 2003) with ideas in personality research in a situational affordance framework may yield an interesting fusion of the person and situation approaches. Mischel (2004) comments on this saying of Kelley and colleagues' (2003) atlas, "An interesting next step may be to link those interpersonal situations to the psychological chemistry of their participants." Although Mischel's (2004) idea would indicate linking situations to a cognitive-affective system, another natural starting point for an attempt to bring the situation and person together would be to use lexically-derived personality factors. There are several factor structures that one might seek to use in such an attempt. It might be possible to show the differential affordance of different facets/factors from one or more of the lexically-derived trait taxonomies in different types of situations taken from interdependence theory.

#### *The lexical hypothesis*

The concept underlying much of the work that has been done in personality research is that people create words for important concepts. The more important the concept, the more likely it is that people will have created a word or multiple words to describe it. This contention is called the lexical hypothesis. Researchers often give credit to Galton (1884) as the first person to make use of the lexical hypothesis in an early form (John, Angleiter, & Ostendorf, 1988; Goldberg, 1990). Galton (1884) made his study of personality by counting the words in a dictionary that he deemed expressive of character. While different from current lexical approaches, this idea still assumes that important personality descriptions will be encoded into language. Allport and Odbert (1936), Norman (1967), and Goldberg (1982) all added terms to (and, in some cases, subtracted terms from) the list that Galton had compiled. The lexical hypothesis was explicitly stated by Klages (1926,1932) and was

further developed by Allport (1937), Cattell (1943), Norman (1963), and Goldberg (1982) who stated:

Those individual differences that are of most significance in the daily transactions of persons with each other will eventually become encoded into their language. The more important such a difference, the more people will notice it and wish to talk of it, with the result that eventually they will invent a word for it (pp. 141-142).

(For a more comprehensive history of the development of the lexical hypothesis and trait taxonomic research in general see John, Angleiter, & Ostendorf, 1988).

#### *Factor analysis in lexical studies*

Using terms culled from Allport & Odbert (1936) as well as adding some of his own, Cattell (1943) created synonym clusters on which he later performed factor analyses using peer ratings (1945, 1947, 1948). In the factor analyses he conducted, he found at least 11 factors. However, subsequent reanalysis of Cattell's work (Tupes & Christal, 1961, 1992; Norman, 1963; Digman & Takemoto-Chock, 1981) found evidence for five factors. Five factor structures have been found in factor analyses performed by many researchers (Fiske, 1949; Tupes & Christal, 1961, 1992; Norman, 1963; Borgatta, 1964; Digman & Takemoto-Chock, 1981; Costa & McCrae, 1985; Digman & Inouye, 1986; McCrae & Costa, 1987; Saucier & Goldberg, 1996). Currently, the most well-known lexically-derived trait taxonomy is called the "Big Five" (Goldberg, 1990). In their discussion of why it might be that five personality factors exist, McCrae and John (1992) state:

We believe it is simply an empirical fact, like the fact that there are seven continents on Earth or eight American presidents from Virginia. Biologists recognize eight classes of vertebrates..., and the theory of evolution helps to explain the development of these classes. It does not, however, explain why eight classes evolved, rather than four or eleven... (p. 194).

The Big Five trait taxonomy (Goldberg, 1990) organizes personality traits into five overarching factors that are called: (I) Surgency (typically labeled as Extraversion), which

encompasses traits such as talkativeness and spirit vs. shyness and inhibition; (II) Agreeableness, which contains traits such as cooperation and warmth vs. bossiness and rudeness; (III) Dependability (or Conscientiousness), which encompasses organization, efficiency, etc. vs. forgetfulness, sloth, etc.; (IV) Emotional Stability (or Neuroticism) containing the traits of placidity and independence vs. instability and emotionality; and (V) Culture [or Intellect/Intelligence, Imagination, Conventionality (Caprara & Perugini, 1994), or Openness/Openness to experience (McCrae 1990)].

#### *Controversy over the fifth factor*

There is some controversy regarding the factor that some researchers call “Openness (McCrae, 1990; McCrae & John, 1992).” This factor has also been called “Intellect (Goldberg 1990)” or “Culture (Norman, 1963).” Rather than simply being synonyms for Openness, these different terms partially reflect the fact that the fifth factor sometimes has different appearances in different studies. McCrae (1990) asserts that Openness is a more “psychologically fundamental dimension (p. 123)” than Intellect. Of the lexical hypothesis, he says:

We are thus forced to adopt a weak form of the lexical hypothesis and abandon the strong form which asserts a rigorous parallelism between the structure of language and the structure of personality (p. 123).

Saucier (1992), on the other hand, claims that McCrae overstates his case. He goes on to say that the different names given to the fifth factor reflect the small area of non-overlap between the different versions of the factor. Saucier’s conclusion is that:

Lexical and questionnaire versions of the Imagination (or Creativity or Originality) dimension are not so sharply divergent as McCrae (1990) has suggested, which is good news for the science of personality (p. 385).

Ashton, Lee, Marcus and De Vries (2007) report that a seven-factor solution for the German language separates Openness into Intelligence and Creativity. Even though they did not choose seven factors for their final solution, it remains an interesting idea that the different interpretations may reflect two merged sub-factors. In the Dutch language, the Openness factor contains a strong connotation of what could best be termed “rebelliousness” (De Raad, Hendricks, & Hofstee, 1992). The discussion of these last two studies raises an interesting point about the lexical hypothesis. One would expect that the factors uncovered in English would be similarly recoverable in other languages if the personality factors are indeed universal. Despite small differences in the fifth factor, the five-factor structure has indeed been recovered in multiple languages. McCrae & Costa (1997) found evidence of a five-factor structure analogous to the American five-factor structure in German, Portuguese, Hebrew, Chinese, Korean, and Japanese. Linguistically speaking, it is important to point out that not all the languages used were Indo-European languages.

#### *Block's critique*

Even though it is encouraging that factors tend to replicate and be found in other languages, there are a few problems with many lexical studies that may remain hidden at first glance. Many of the earlier studies conducted did not begin from a true starting point. Those studies conducted factor analyses using lists of traits developed by earlier researchers or were at least partially based on those lists. Presumably, this was done for the sake of convenience. Particularly in the early days of trait research, the selection of adjectives to use as traits was a time-consuming process. Therefore, many studies saved time by using the same lists. Even when saving time was not the motive, much of the early research in this area still used the same word lists. The problem with this is that while it may replicate a previously observed

factor structure, it may be replicating a structure inherent in the trait list rather than the language itself. Block (1995) refers to this as “prestructuring.” Of course, this is the problem with any individual study conducted, but using different assortments of words should somewhat alleviate this concern. However, as Block (1995) points out, many researchers (e.g. Borgatta, 1964; Digman & Takemoto-Chock, 1981) found five-factor structures using versions of variable sets derived from Cattell or Norman’s work.

Block (1995) refers to the aforementioned studies collectively as the “initial phase” of the five-factor approach (p. 195). According to Block, the second phase of the five-factor approach began with the work of Goldberg (e.g. 1981; 1990; 1992) who used larger numbers of adjectives in his “refinding and refining” of the five factors (Block, 1995, p. 195). Block’s second phase also includes the work of Costa and McCrae (1985; McCrae & Costa, 1987; McCrae, Costa & Busch, 1986; Costa & McCrae, 1988). Costa & McCrae (1985) developed their NEO Personality Inventory (NEO-PI) containing five factors analogous to those found in lexical studies by analyzing standard personality questionnaires. They point to this as evidence of the convergent validity of the five-factor model of personality.

Among Block’s (1995) myriad other objections to the five factor model are the use of laypersons to specify personality descriptors, the breadth of the factors, the non-orthogonality of the factors, and even the “fiveness” of the factors. Ashton and Lee (2005) offer a rebuttal to some of these objections (as well as to objections raised by other researchers).

#### *Ashton and Lee’s defense of the lexical approach*

The objection to the use of laypersons to make personality ratings stems from the belief that expert observers of personality would provide ratings that have greater accuracy and generate a different structure of personality. Ashton and Lee (2005) answer this objection

on theoretical and empirical grounds. First, they point out that the over- or underestimation of traits will not necessarily affect the overall factor structure as long as observers do it consistently for related variables. Observers may be inaccurate for an individual, but this does not preclude them from observing the structure correctly. Furthermore, Paunonen and Ashton (2001) find that self-ratings are predictive of criteria relevant to rated traits. Block's (1995) view of the factors' breadth is that it leads to a "descriptive coarseness (p. 208)."

Ashton and Lee (2005), on the other hand, state that while the factors are broad this:

...does not mean that researchers who aim to find the major dimensions are somehow opposed to the more fine-grained assessment of personality variation. ... it has always been recognized that broad traits can be meaningfully divided according to their specific behavioral manifestations of their specific situational contexts (p. 17).

#### *The HEXACO model*

While Ashton and Lee (2005) defend some aspects of the five-factor model, their defense is of the lexical hypothesis in general. As such, there are a few concerns that their paper does not address. Primarily, Ashton and Lee (2005) do not spend any time defending the "fiveness" of the five factor model. In fact, Ashton and Lee are among those that have remarked upon the issue of the number of factors and have actually reviewed analyses with unclustered adjectives selected according to frequency of use to uncover a slightly different factor structure. Their taxonomy has six factors and appears to be replicable. (Ashton, Lee, & Goldberg, 2004; Ashton, Lee, Perugini et al., 2004; Lee & Ashton, 2004). They have found evidence for a six-factor structure in the following languages: Dutch, French, German, Hungarian, Italian, Korean, and Polish (Ashton, Lee, Perugini et al., 2004). In the same analysis, they failed to replicate the six-factor structure in English, Czech, Turkish, and Filipino/Tagalog. However, Lee and Ashton (2004) pointed out that the initially analyzed Turkish and Filipino/Tagalog studies contained terms related to evaluation and attractiveness

that they felt should be excluded from analysis. Furthermore, the Czech study (Hrebickova, 1995) that they analyzed had a sixth factor composed of terms such as “agile” and “nimble” that could conceivably be construed as non-personality terms (Ashton, Lee, Goldberg, 2004). With seven factors, the Czech solution resembled the six-factor solution from other languages (with the aforementioned additional factor).

More recent analyses have uncovered a similar six-factor solution in English (Ashton, Lee & Goldberg, 2004), Greek (Ashton, Lee, Marcus, & de Vries, 2007; Lee & Ashton, 2006), Croatian (Ashton, Lee, Marcus, & de Vries, 2007; Ashton, Lee, & de Vries, 2005), Turkish, (Wasti, Lee, Ashton, & Somer, 2006), and Filipino/Tagalog (Ashton & Lee, 2007). Overall, the six-factor structure has been observed in at least 12 languages. (This does not include the Czech study (Hrebickova, 1995). The structure that they have uncovered is not radically different from the Big Five.

The principle difference is the additional sixth factor that they have named “Honesty/Humility.” They call their personality inventory the HEXACO-PI (an acronym which incorporates the *Greek* word hexa, meaning “six”) (Lee & Ashton, 2004). The Honesty/Humility factor contains traits that were previously contained in the Agreeableness factor of the Big Five. The HEXACO still has a factor for Agreeableness, but it has lost its Honesty/Humility traits in addition to gaining some of the traits typically associated with the Neuroticism/Emotional Stability factor. Specifically, the negative pole of the HEXACO Agreeableness factor now contains traits related to irritability and anger. The authors note that this brings the emotional stability (which they call “Emotionality”) factor into a closer relationship with what is commonly thought of as “Neuroticism” by the lay person. Despite these small changes, one of the motivations for the HEXACO-PI was to (strangely enough)

ensure closer replications of factors contained in the Big Five. While many factor analytic studies have recovered five factors, some of those studies have recovered factor solutions that do not resemble the typical Big Five factors as closely as one might expect (for a list of these studies see Ashton, Lee, & Goldberg, 2004).

It is when the addition of a sixth factor is allowed, that all five of the traditional Big Five factors emerge. Honesty/Humility is the factor that tends to emerge fifth or sixth. (When seven factors were extracted by Ashton, Lee & Goldberg (2004), a factor they named “Religiosity” emerged. However, they remarked that the factor might not actually be a part of the personality domain, but instead might be based more on beliefs and social attitudes.) While the HEXACO-PI factors are reported to be *roughly* orthogonal (Lee & Ashton, 2004), Lee and Ashton point out that the correlations among the factors of the HEXACO-PI are actually lower than the observed correlations among the factors of Costa and McCrae’s (1992) five-factor model. However, problems still exist with the HEXACO-PI. It does not replicate in all languages consistently and some six-factor solutions do not resemble the HEXACO-PI as closely as might be expected (De Raad & Barelds, 2008).

#### *The Dutch-language 8-factor solution*

De Raad and Hofstee (1993) have also raised an objection to the HEXACO-PI and prior personality inventories similar to Block’s (1995) concern of prestructuring through trait adjective selection. They have pointed out that the factor structure observed in studies of trait adjectives may be word-class dependent. This is an interesting point in that different sorts of traits maybe more easily expressible in one type of word vs. another. Following this idea, De Raad & Hofstee (1993) have conducted studies where they recovered different factor structures from nouns, adjectives, and verbs.

Most recently, De Raad and Barelds (2008) have conducted a series of factor analyses in the Dutch language using “unrestricted” word lists that contained verbs, nouns, and adjectives. They were able to achieve this by creating short phrases implying traits. For example: the trait adjective “meticulous” becomes the phrase a “meticulous person” while a phrase such as “someone who gives up easily” can express a trait verb. In this way, they could use all word classes. In their study, they conducted a series of factor analyses with one to ten factors.

Their final solution contained eight factors. Four of these factors clearly represented the Big Five factors of Agreeableness, Conscientiousness, Emotional Stability, and Extraversion. Another, which they called Conventionality, was similar to Openness. However, many of the traits typically associated with Openness (or Intellect) had higher loadings on a factor they named “Competence.” In this way, the finding of Conventionality and Competence factors mirrors the division of Openness into Intelligence and Creativity. The Competence factor also contained some of the traits that Lee & Ashton (2004) found to be part of Honesty/Humility. The rest of those Honesty/Humility traits were found in a factor that De Raad & Barelds named “Virtue.” Virtue was quite similar, but not identical, to Honesty/Humility. Finally, De Raad & Barelds (2008) found evidence for a factor that they called “Hedonism” which appeared to contain sensation-seeking characteristics. This last type of factor is not without precedent. Becker (1999) finds a similar Hedonism/Sensation-Seeking factor emerging sixth after the traditional first five factors in an analysis conducted using German-language questionnaires.

Both the HEXACO-PI and De Raad and Barelds’ (2008) solution contain rough analogues of all the factors of the five-factor model. De Raad and Barelds (2008) 8-factor

solution includes analogues of all the factors in the HEXACO-PI model. So, despite having extra factors, the HEXACO-PI and the 8-factor solution can be viewed as simply expanding the five-factor model rather than directly contradicting it. The 8-factor solution may be slightly more complete than the HEXACO-PI, but terms taken from it need translation when used for an English-language study. Also, its history is not as established as the HEXACO-PI. When selecting a lexically-derived personality taxonomy for use in the current research, we felt that both the HEXACO-PI and the 8-factor solution would be useful in their own ways to our study of the affordance of personality traits in interdependence situations.

### *The situational approach*

The second approach to studying personality that is pertinent to our discussion could be termed the “situational” approach to personality. While the situational approach we use will be based in the interdependence theory in social psychology, there is a pre-existing tradition of situational research in the personality literature. This situational approach is an alternative to the “trait” approach described earlier and can be seen as partially antagonistic to the methods of the lexical approach. Mischel and Shoda (1995) express one of the underlying theoretical precepts that led to the situational approach:

...dispositions and their behavioral expressions were assumed by definition to correspond directly; the more a person has a conscientious disposition, for example, the more conscientious the behavior will be (p. 246).

In this view, personality should be closely related to behavior. Additionally, Harry Stack Sullivan (1953) theorized that personality should be viewed as occurring in the situation. Thus, early personality researchers sought to find evidence of personality in the cross-situational consistency of behavior. However, early findings in studies looking for cross-situational consistency do not reveal a high degree of consistency in behavior across

situations (Hartshorne & May, 1928; Newcomb, 1929; Mischel, 1968; Mischel & Peake, 1982).

This is discouraging in any search for stable individual differences. One option available to researchers is to aggregate across many similar situations in order to obtain a more reliable composite of behaviors. Mischel, Shoda, and Mendoza-Denton (2002) point out that while this practice has its advantages, it may conceal potentially meaningful information. Rather than being sources of error, these differences in behavior across situations may be stable patterns of situation-behavior relations. In this way, the situational approach of Mischel et al. (1987, 1988, 1989, 1994, 1995) sets itself in opposition to the “trait” approach by emphasizing behaviors in specific situations (situation-behavior profiles) rather than over-arching dispositions. Mischel and Shoda (1995) proposed a cognitive affective personality system (CAPS) where individual differences in behavior are explained by differing psychological variables with differing organizations and degrees of relation to situations.

The model seeks to explain how traits are expressed differently in different situations (Kammrath, Mendoza-Denton, & Mischel, 2005). The CAPS model emerged from Mischel and Shoda’s (1995) study of childrens’ aggressive behavior in a summer camp setting. Children were observed over a six-week period in various situations related to aggression. A preliminary study analyzed observers’ open-ended descriptions of children with the goal of identifying the constituent features of interpersonal situations (Wright & Mischel, 1988). The two main constituents uncovered were valence of the interaction and type of person involved in the interaction. Using these criteria, five potentially-recurring, objectively-observable interpersonal situations were selected: “peer teased, provoked or threatened”; “adult warned

the child”; “adult gave the child a time out”; “peer initiated positive social contact”; and “adult praised the child verbally”(Wright & Mischel, 1988). These five situations were arranged into *situation-behavior profiles* to show the stability of an individuals’ pattern of behavior across situations (Shoda, Mischel, & Wright, 1994). For example, a child might not consistently show high or low levels of aggression across situations, but their levels of aggression within specific situations may remain stable while varying substantially between situations. Aggregating the situations would obscure this fact.

Based on the above findings, Michel’s (1973) earlier research, and various other pieces of evidence, Mischel and Shoda (1995) delineate five types of variables (or *Cognitive-Affective Units*) that form the basis of a personality mediating system—the CAPS model. These five types of variables are labeled: encodings; expectancies and beliefs; affects; goals and values; and competencies and self-regulatory plans. Encodings are constructs or categories a person has for the self, other people, and events or situations. Expectancies and beliefs pertain to the social world, behavioral outcomes, and the ability to perform behaviors. Affects are the emotions we feel or the physiological reactions we experience. Goals and values deal primarily with outcomes we either desire or wish to avoid in the short or long term. Competencies and self-regulatory plans encompass our behavioral strategies and abilities related to affecting our internal or external outcomes in a situation. The CAPS model also includes the organization of the relationships through which these categories of variables interact with each other and with the features of various situations. With its emphasis on the interaction of personality with specific situations, the CAPS model’s situational approach may seem incompatible with broad, overarching personality traits that seek to explain

variation across situations. After all, how can less than ten traits be relevant to the infinite amount of situations that can occur?

A synthesis of the two personality approaches may require a different situational framework. Holmes (2002) points out that Mischel and Shoda's (1995) situational approach viewed another person's behavior toward the subject as the context in their model.

Essentially, this prevents the separate consideration of the situation and the second person in the situation. Holmes (2002) created a framework to consider these factors as a complement to the CAPS model. This framework, the SABI cognitive network model, was derived from interdependence theory. Its elements are: the interdependence situation (S), the goals of a person (A), and the expectation of the other person's goals (B); which together determine an individual's behavior in the interaction (I).

Our theoretical approach proceeds along this interdependence theory-derived pathway. Rather than innumerable specific situations, interdependence theory (Thibaut & Kelley, 1959; Kelley & Thibaut, 1978) concerns itself with a relatively smaller number of abstract situation types found to be psychologically interesting. Kelley et al. (2003) have written an atlas of these interpersonal situations. One potential way of integrating the two personality approaches is to examine which traits are relevant to which situations. Similar to this idea, Denissen & Penke (2008) have made efforts to contextualize the FFM as individual differences in reactions to situational cues. It may be possible to go a step further and show that the expressions of the overarching 5-8 lexically-derived personality factors are differentially afforded by the various abstract situations of interdependence theory.

### *Interdependence theory*

In its descriptions of abstract situations, interdependence theory typically makes use of 2 X 2 matrices. Two actors in a situation are conceptualized as each having two behavioral options. The various combinations of the actors' choices lead to different outcomes that are represented numerically, in the four cells of the matrix (see Figures 1 and 2). Different situations have differing levels of interdependence components in their patterns of outcomes. These components include the actors' ability to control their own (Actor Control or AC) and each others' (Partner Control or PC) outcomes with their choices as well as how the interaction of their choices (Joint Control or JC) might affect one or both of their outcomes (Kelley et al. 2003). This ability of the actors to affect each others' outcomes is the origin of the "interdependence" in interdependence theory. If actors did not affect one another's outcomes, they would be independent.

There are four dimensions along which the interdependence of a situation may be classified. The first of these is *degree of interdependence*, or the extent to which actors' outcomes are dependent upon one another's choices. *Mutuality of interdependence* is the dimension that describes whether both actors have the same ability to affect one another's outcomes (in a symmetric matrix, interdependence is mutual). The extent to which the outcomes covary positively or negatively is known as the *degree of correspondence/noncorrespondence*. Finally, the *basis of interdependence* results from the levels of the AC, PC, and JC components of a situation.

The PDG situation (Figure 1) is a symmetric, interdependent situation characterized as having a high degree of noncorrespondence and a high ratio of PC to AC with no JC. The characteristics of the PDG situation lead actors to "exchange" the benevolent use of PC, and

the high degree of noncorrespondence of their outcomes makes it uncertain that both partners will do so. The BOS situation (Figure 2) is a symmetric, interdependent situation with high correspondence and high ratio of JC to AC with no PC<sup>1</sup>. In the BOS situation, the high, but imperfect, correspondence combined with the high JC leads to a situation where actor one must pursue their own best outcome while actor two “coordinates” their choice with actor one’s choice. This broad distinction between *exchange* and *coordination* situations may be useful for demonstrating affordance.

### *Kirchner’s study*

Kirchner (2005) made a prior attempt to show the perceived affordance of traits in interdependence situations. In his study, he created dating scenarios based on several different interdependence matrices. He used judges’ ratings to show that the scenarios approximated different interdependence situations. One scenario, meant to approximate a PDG matrix, described a situation where college students would be going on spring break vacation away from their dating partners. It was explained that both partners would have opportunities to cheat without their partner discovering their infidelity. If both partners were faithful, the maximum joint outcome could occur. Cheating in this scenario would be the equivalent of competition in the PDG. Unilateral cheating would gain a lopsided benefit at the expense of the dating partner. If both partners cheated, outcomes were worse than if both had been faithful, but better than the outcomes for a partner who had been faithful while their partner pursued infidelity.

---

<sup>1</sup> Kelley & Thibaut (1978) describe an alternative version with a high ratio of JC to PC with no AC.

In a BOS situation that Kirchner devised, participants were asked to imagine going out to see a movie with their dating partners. In the scenario, participants were told that their choice of movie differed from their partner's. In order to be together while watching the movie, one of the partners would have to see their less preferred movie. It would likely be less satisfactory for both partners to see their most preferred movie in the absence of their partner than it would be to go to their less preferred movie with their partner. It would, of course, be ridiculous for partners to both go to see their less preferred movie in the absence of their partner. This scenario maps fairly well onto the structure of the BOS matrix.

The participants were then asked to rate how relevant or easy to confirm different traits were in different situations. These traits were selected from Rothbart and Park's (1986) analysis of trait features. Kirchner (2005) used negative traits relating to "untrustworthiness" and "abrasiveness." It was found that untrustworthiness was more relevant to the PDG-type (or exchange) scenarios and that abrasiveness was more relevant to the BOS-type (or coordination) scenarios. Kirchner (2005) also conducted a study varying the index of correspondence/noncorrespondence.

## CHAPTER 2

### STUDY ONE

In this set of studies, we attempt to demonstrate the perceived relevance of different positive and negative lexically-derived personality factors to different interdependence situations. It is important to note that this perceived relevance is equated to perceived affordance and not affordance itself (or conventional affordance). Conventional affordance would be demonstrated by a personality trait predicting behavior in one situation and not another, or in differences in the association between trait and behavior across situations. In the context of the SABI framework (Holmes, 2002), the perceived affordance variables in this study would be relevant to the expectation of the other's goals (B) and would influence the actor's behavior in an interaction (I). Conventional affordance would be more relevant to the goals of the actor (A). Both (A) and (B) are important in determining behavior in a situation (S). We focus on (B) in order to extend Kirchner's (2005) initial results with lexically-derived personality factors.

For our initial study, we use three of Kirchner's (2005) scenarios in addition to one of our own to give us two PDG analogues and two BOS analogues. Furthermore, we use modified versions of scenarios created to indicate that the scenarios would be occurring multiple times (iterated vs. non-iterated). Our reasoning for this is that Agreeableness may be afforded by the possibility of alternation of responses over time in the BOS scenarios. So, if we do not observe affordance in the scenarios when they occur one time, we may be able to observe affordance in the "multiple trials" scenarios. A multiple-trial PDG scenario, while

not being our primary theoretical concern in this case, could conceivably reduce affordance of Honesty/Humility/Virtue in that the betrayed have an opportunity to retaliate. The prospect of retaliation may replace the functioning of a person's morals.

We use traits from Lee and Ashton's (2004) HEXACO-PI as well as De Raad and Barelds' (2008) 8-factor solution. Both of these have an Agreeableness factor that we feel is conceptually similar to the "abrasiveness" used in Kirchner's (2005) study.

"untrustworthiness" appears to be similar to the factors of Honesty/Humility from the HEXACO-PI and Virtue from the 8-factor solution.

### *Hypotheses*

The uncertainty that both actors in the PDG scenarios will use their PC benevolently may lead participants to conclude that Honesty/Humility/Virtue is more relevant to those situations than Agreeableness. In the BOS scenarios, the need for coordination between the two actors in addition to the need for one of them to take a lower outcome may make Agreeableness more relevant to that situation than Honesty/Humility/Virtue. Another way of looking at this issue would be to consider it from the standpoint of which situation makes a trait more relevant. Honesty/Humility/Virtue should be more relevant to PDG situations than to BOS situations. The reverse should be true for Agreeableness.

If one of the traits shows a strong main effect, we may only be able to observe that a trait is more relevant to one type situation than the other. We may not be able to observe a full pattern where one trait is more relevant to PDG scenarios and the other trait is more relevant to the BOS scenarios. Likewise, if one type of scenario shows a strong main effect on all of the traits, we may only be able to observe that one type of trait is more relevant than

the other in one situation and another is more relevant than the other in another situation. We may not be able to show that one trait is more relevant to one situation than the other.

It may be helpful to create two sets of hypotheses with different levels of strength. The “strong” version of our hypotheses is that there will be a two-way interaction between Trait and Situation such that the simple effects of one variable at each level of the other variable are significant and opposite in direction from each other. The patterns of means will show that: 1. Honesty/Humility/Virtue is more relevant to PDG situations than BOS situations while Agreeableness is more relevant to BOS situations than PDG situations. 2. Honesty/Humility/Virtue is more relevant than Agreeableness to PDG situations while Agreeableness is more relevant than Honesty/Humility/Virtue to BOS situations. The “weak” version of our hypotheses would be that rather than a reversal of simple effect patterns as mentioned in the “strong” hypotheses we may find attenuations in the strength of the effects of one variable at one level of the second variable when compared to the other level. This may happen for one or both of the interaction breakdowns mentioned in the “strong” hypotheses. Finally, we may observe the affordance of Agreeableness in the BOS scenarios when they are iterated if we fail to observe it in the non-iterated scenarios. (We may regard this as an ancillary hypothesis.)

## CHAPTER 3

### METHOD

#### *Participants*

Our sample was composed of 113 individuals (48 men and 65 women). The participants were predominantly white students between 18 and 21 years of age. Participants volunteered and received course credit in an introductory Psychology class in exchange for their participation.

#### *Materials*

*Interdependence situations.* One of our two PDG scenarios (scenarios A and B) was taken from Kirchner's (2005) study (See Appendix A). Another was created for this study (see Appendix B). Both BOS scenarios (scenarios C and D) were taken from Kirchner's (2005) study (see Appendix C). The iterated versions of these scenarios are shown in Appendix D. Tests were conducted to show that these situations approximated the ordinal rankings of standard PDG and BOS matrices. This was especially necessary for the situation created for this study since it had not been tested before. Initial tests did not confirm the ordinal ranking of the possibilities in the scenarios matched the ordinal ranking of the PDG and BOS situations. Since Kirchner's (2005) scenarios did not encounter this problem, our initial findings may have been due to our testing methodology. Also, our pre-testing did not reveal any difference between the PDG and BOS scenarios.

Kirchner (2005) used expert judges' ratings. We did, however, not have a sufficient number of expert judges to exactly replicate Kirchner's (2005) results. We thus used naïve

observers. Particularly for the PDG scenarios, naïve observers tended to focus on maximum joint benefits. Across several different versions of questionnaires, we attempted to focus participants on ranking the options in terms of pure self-interest rather than maximizing joint outcomes. No matter the phrasing, we were unable to get them to interpret the scenario in this manner. One concept in interdependence theory that may be enlightening in this regard is called “transformation” (Kelley & Thibaut, 1978). The process of interpretation of the outcome matrix underlying any situation by a human observer is inherently subjective. The concept of transformation describes how the objective characteristics of the situation are construed by the persons in them. A person may transform a situation with potential for self-interested action into a situation where fulfilling moral expectations is regarded as a benefit. In fact, this may be why Honesty/Humility/Virtue would be important in such a situation.

In any case, this difficulty was overcome by using a different method of rating the scenarios. Since the PDG and BOS are primarily distinguished by the ordinal rankings of the outcomes, we decided to assess whether the ordinal rankings of the various possible outcomes in each scenario matched (in a relative sense) the ordinal rankings of the situations they were designed to resemble. A subset of participants (8 men and 16 women) rated several possible ordinal rankings of outcomes for each scenario on the plausibility that another person would rank the outcomes in that way. For each scenario, there were options corresponding to a PDG ordinal ranking and a BOS ordinal ranking. Since each scenario was symmetric, participants only ranked the outcomes for one person in each scenario. (Also, we did not use the iterated scenarios because participants did not make distinctions between them in their rankings in earlier pretesting.) We compared the plausibility ratings of each scenario with the combined plausibility ratings of the two scenarios meant to approximate the

other situation. For example, the first PDG scenario's ratings of the plausibility of the PDG ranking were compared to the combined ratings of the plausibility of the PDG ranking for the two BOS scenarios. We were interested in whether the ordinal rankings of a given scenario were more construable as the situation it was supposed to resemble relative to the scenarios' that were supposed to resemble the other situation. We found that this was indeed the case for all scenarios (Scenario A,  $F(1,23) = 32.46, p < .001$ ; Scenario B,  $F(1,23) = 22.89, p < .001$ ; Scenario C,  $F(1,23) = 195.14, p < .001$ ; Scenario D,  $F(1,23) = 191.08, p < .001$ ).

*Trait measures.* Traits from the HEXACO-PI and De Raad and Barelds' (2008) 8-factor solution were collected from available sources (Ashton & Lee, 2007; De Raad & Barelds, 2008; Lee, Ashton, & Shin, 2005; Ashton, Lee & Goldberg, 2004). Based on the numbers of available, usable traits, eight positive and eight negative traits were selected from each of the two trait sets for each of the two factors of interest. These traits are listed in Appendix E. Trait selection was determined by the exclusion of terms clearly inappropriate for our experimental setting (e.g. "overviolent") or terms that might seem awkward to participants (e.g. "unsly") and the inclusion of the remaining terms assumed to be familiar to participants.

#### *Procedure*

Participants were tested in sessions of 2 to 8. This experiment used a mixed 2 X 2 X 2 X 2 X 2 design. The between-subjects variables were Gender, Trait Valence (positive or negative), and Iteration (one time vs. multiple times). The within-subjects variables were Situation (PDG or BOS) and Trait (Honesty/Humility/Virtue or Agreeableness). Traits from the HEXACO-PI and 8-factor solution were treated as separate measures, making this a doubly repeated measures design.

Testing took place at individual computer terminals located in cubicles within a large room. Since Kirchner's (2005) study used the scenarios in a dating context, we did so as well. This allowed us to use the scenarios unaltered. We first presented participants with a generic description of a hypothetical dating partner to aid participants in thinking about the relationship situations (adapted from Kirchner (2005), shown in Appendix F). They were also given a page of instructions (Appendix G). The scenarios were presented by the computer in random order. The traits were also presented in random order for each scenario with the potential for each trait presented to be an Agreeableness or an Honesty/Humility/Virtue trait. All the traits from the 8-factor solution were presented after the traits from the HEXACO-PI. For each trait, participants were asked: "How relevant is it to know whether your partner is \_\_\_\_\_?" Ratings were then made on a scale of "0" (not at all relevant) to "8" (very relevant). The current scenario was presented with each trait participants rated. Traits afforded more in one scenario than another should receive higher relevance ratings for that scenario.

## CHAPTER 4

### RESULTS

#### *Reliabilities*

*Combining situation ratings.* Prior to our main analyses, we planned to average the trait ratings of the two examples of each situation in order to have one set of PDG ratings and one set of BOS ratings. Before doing this, we wished to test in some way whether the ratings for the two scenarios of each type were reliable. To this end, the between-scenario reliabilities of the average trait ratings of Honesty/Humility/Virtue and Agreeableness of both scales (HEXACO and 8-factor) were analyzed separately by Trait and scale for each type of situation (PDG or BOS). All but one of the Spearman-Brown corrected correlations were above .65 (Table 1).

*Scale reliabilities.* During the process of reliability testing, it was discovered that one of the negative Honesty/Humility/Virtue traits, “sly,” was inadvertently spelled as “shy” within the questionnaire. Since this misspelling formed a word related to Extraversion rather than Honesty/Humility/Virtue, the word was excluded from analyses. The rest of the ratings, combined by type of situation (PDG or BOS), were subjected to reliability analyses separately by Trait, scale, Trait valence, and type of situation (16 ratings in all). All reliabilities ranged from acceptable to very good (DeVellis, 1991). These reliabilities are displayed in Table 2. The main analyses were conducted with scale ratings created by averaging the traits rating from both examples of a given scenario, and averaging the resultant ratings. The correlations of these scale ratings with one another within each type of

situation are listed in Table 3. Data were analyzed in a doubly repeated measures design with the aforementioned variables.

### *Main effects*

For the sake of brevity, effects that have differences in significance or direction between the two univariate analyses or are not consistent between the two studies will be listed in footnotes. There were several main effects observed in the multivariate analyses. The Trait main effect was significant,  $\Lambda = .30$ ,  $F(2,104) = 121.045$ ,  $p < .001$ . Looking at the univariate analyses, the HEXACO Trait effect was significant,  $F(1,105) = 133.57$ ,  $p < .001$ . Honesty/Humility/Virtue traits were more relevant than Agreeableness traits ( $M = 5.78$  and  $M = 5.08$ ). This pattern was also observed for 8-factor traits,  $F(1,105) = 198.75$ ,  $p < .001$ , ( $M = 5.77$  and  $M = 4.85$ ).<sup>23</sup>

### *Trait by Situation interaction*

Our main interaction of interest, the Trait by Situation interaction, was significant for the multivariate test,  $\Lambda = .33$ ,  $F(2,104) = 106.27$ ,  $p < .001$ . The means are in Table 4. The univariate tests were significant for both the HEXACO traits ( $F(1,105) = 207.27$ ,  $p < .001$ ) and the 8-factor traits ( $F(1,105) = 92.13$ ,  $p < .001$ ). Breaking this interaction down by Trait,

---

<sup>2</sup> There was also a Situation main effect,  $\Lambda = .77$ ,  $F(2,104) = 15.44$ ,  $p < .001$ . The univariate HEXACO effect was non-significant,  $F(1,105) = 1.99$ ,  $p = .16$ , ( $M = 5.48$  and  $M = 5.38$ ). The univariate 8-factor effect was significant,  $F(1,105) = 18.29$ ,  $p < .001$ . Traits were generally more relevant to PDG situations than BOS situations ( $M = 5.48$  and  $M = 5.14$ ). While the HEXACO univariate results were non-significant, the patterns of means were descriptively similar.

<sup>3</sup> A significant Trait Valence effect was also observed,  $\Lambda = .59$ ,  $F(2,104) = 36.93$ ,  $p < .001$ . In the univariate analyses, the HEXACO Trait Valence effect was significant ( $F(1,105) = 2.74$ ,  $p = .10$ ) with negative traits perceived as more relevant than positive traits ( $M = 5.30$  and  $M = 5.56$ ). There was a marginal effect, in the opposite direction, for the 8-factor traits,  $F(1,105) = 3.39$ ,  $p = .068$ , ( $M = 5.48$  and  $M = 5.14$ ).

we observed a significant multivariate effect of situation for both Honesty/Humility/Virtue ( $\Lambda = .46, F(2,104) = 61.59, p < .001$ ) traits and Agreeableness traits ( $\Lambda = .49, F(2,104) = 54.063, p < .001$ ). The univariate results revealed that Honesty/Humility/Virtue traits showed significantly more relevance in PDG than BOS situations for both scales [HEXACO traits:  $\Lambda = .48, F(1,105) = 115.037, p < .001, (M = 6.30$  and  $M = 5.26)$ ; 8-factor traits:  $\Lambda = .55, F(1,105) = 84.68, p < .001, (M = 6.21$  and  $M = 5.33)$ ]. Agreeableness traits showed significantly less relevance to PDG situations and more to BOS situations for both scales [HEXACO traits:  $\Lambda = .60, F(1,105) = 70.19, p < .001, (M = 4.66$  and  $M = 5.50)$ ; 8-factor traits: Wilks'  $\Lambda = .96, F(1,105) = 4.09, p = .046, (M = 4.75$  and  $M = 4.95)$ ]. This pattern supported the strong version of our hypotheses for both scales.

To address the rest of our hypotheses, we also looked at the alternative breakdown of this interaction. Both the multivariate effects of Trait within PDG situations ( $\Lambda = .21, F(2,104) = 198.23, p < .001$ ) and BOS situations were significant ( $\Lambda = .73, F(2,104) = 18.93, p < .001$ ). Looking at the univariate effects of Trait within the PDG situations, we found that Honesty/Humility/Virtue traits were significantly more relevant than Agreeableness traits [HEXACO traits:  $\Lambda = .24, F(1,105) = 339.39, p < .001, (M = 6.30$  and  $M = 4.66)$ ; 8-factor traits:  $\Lambda = .27, F(1,105) = 281.61, p < .001, (M = 6.21$  and  $M = 4.75)$ ]. These results also supported the strong version of our hypotheses.

However, the Trait effects within the BOS situations were not consistent. For the HEXACO traits, there existed a significant effect of Honesty/Humility/Virtue traits being less relevant than Agreeableness traits to BOS situations,  $\Lambda = .94, F(1,105) = 7.32, p = .008, (M = 5.26$  and  $M = 5.50)$ . This also supported the strong version of our hypotheses. The univariate effect of the 8-factor traits was significant, but in the opposite direction of the

HEXACO effect,  $\Lambda = .84$ ,  $F(1,105) = 19.87$ ,  $p < .001$ . For the 8-factor traits, Honesty/Humility/Virtue was more relevant to BOS situations than Agreeableness, ( $M = 5.33$  and  $M = 4.95$ ). This univariate interaction seemed to be characterized by a smaller effect of Honesty/Humility/Virtue over Agreeableness in BOS situations than PDG situations. As such, it supported a weaker version of our hypotheses. Overall, our hypotheses were fully supported with the HEXACO traits, but received slightly weaker support when using the 8-factor traits (see Table 4 for the means of these interactions). This appeared to be a result of the strong tendency for participants to perceive Honesty/Humility/Virtue traits as more relevant than Agreeableness traits without regard for the situation.

#### *Other two-way interactions*

There were several other significant two-way interactions observed in our data set.<sup>4</sup> A

---

<sup>4</sup> There was a significant interaction between Trait Valence and Situation,  $\Lambda = .94$ ,  $F(2,104) = 3.25$ ,  $p = .043$ . This was a marginal interaction for the HEXACO traits ( $F(1,105) = 3.45$ ,  $p = .066$ ), and a significant one for the 8-factor traits,  $F(1,105) = 6.44$ ,  $p = .013$ . There was a significant multivariate effect of situation for positive traits,  $\Lambda = .94$ ,  $F(2,104) = 3.27$ ,  $p = .042$ . The univariate analyses did not show significant effects [HEXACO traits:  $\Lambda = .999$ ,  $F(1,105) = .098$ ,  $p = .75$ , ( $M = 5.28$  and  $M = 5.31$ ); 8-factor traits:  $\Lambda = .99$ ,  $F(1,105) = 1.49$ ,  $p = .23$ , ( $M = 5.55$  and  $M = 5.41$ )]. Furthermore, the descriptive trends were in differing directions. For negative traits, on the other hand, there was a significant multivariate effect ( $\Lambda = .77$ ,  $F(2,104) = 15.65$ ,  $p < .001$ ) as well as significant univariate effects (HEXACO traits:  $\Lambda = .95$ ,  $F(1,105) = 5.43$ ,  $p = .022$ ; 8-factor traits:  $\Lambda = .82$ ,  $F(1,105) = 23.63$ ,  $p < .001$ ). Both univariate effects showed that negative traits were more relevant to PDG situations than to BOS situations [HEXACO traits: ( $M = 5.68$  and  $M = 5.44$ ); 8-factor traits: ( $M = 5.41$  and  $M = 4.87$ )].

The alternative breakdown of this interaction showed significant multivariate effects of Trait Valence within PDG situations ( $\Lambda = .70$ ,  $F(2,104) = 21.86$ ,  $p < .001$ ) and within BOS situations ( $\Lambda = .63$ ,  $F(2,104) = 30.60$ ,  $p < .001$ ). However, the univariate results were inconsistent between the two scales. The HEXACO traits showed positive traits to be significantly less relevant than negative traits in PDG situations ( $F(1,105) = 6.24$ ,  $p = .014$ , ( $M = 5.28$  and  $M = 5.68$ )), but a non-significant effect of Trait Valence in BOS situations [ $F(1,105) = .45$ ,  $p = .51$ , ( $M = 5.31$  and  $M = 5.44$ )]. 8-factor traits showed a non-significant

two-way interaction was observed between Trait and Trait Valence ( $\Lambda = .67$ ,  $F(2,104) = 25.91$ ,  $p < .001$ ; HEXACO traits:  $F(1,105) = 24.91$ ,  $p < .001$ ; 8-factor traits:  $F(1,105) = 45.25$ ,  $p < .001$ ). The multivariate simple effect of Trait Valence was significant for Honesty/Humility/Virtue traits ( $\Lambda = .70$ ,  $F(2,104) = 22.18$ ,  $p < .001$ ) and Agreeableness traits ( $\Lambda = .76$ ,  $F(2,104) = 16.66$ ,  $p < .001$ ). For HEXACO traits, there was no significant effect of Trait Valence for Honesty/Humility/Virtue traits [ $F(1,105) = .054$ ,  $p = .82$ , ( $M = 5.80$  and  $M = 5.76$ )], but positive traits were significantly less relevant than negative traits when looking at Agreeableness [ $F(1,105) = 10.32$ ,  $p = .002$ , ( $M = 4.80$  and  $M = 5.36$ )]. For the 8-factor traits, positive Honesty/Humility/Virtue traits were significantly more relevant than negative [ $F(1,105) = 15.31$ ,  $p < .001$ , ( $M = 6.16$  and  $M = 5.38$ )], but there was no significant effect of Trait Valence for Agreeableness traits [ $F(1,105) = .25$ ,  $p = .62$ , ( $M = 4.80$  and  $M = 4.90$ )].<sup>5</sup> See Table 6 for the means of this interaction.<sup>67</sup> Overall, our hypotheses were well-supported.

---

effect of Trait Valence in PDG situations [ $F(1,105) = .57$ ,  $p = .45$ , ( $M = 5.55$  and  $M = 5.41$ )], but a significant effect of positive traits showing more relevance than negative in BOS situations [ $F(1,105) = 6.30$ ,  $p = .014$ , ( $M = 5.41$  and  $M = 4.87$ )]. See Table 5 for the means of this interaction.

<sup>5</sup> Alternatively, this interaction could be analyzed by examining the effect of Trait within each level of Trait Valence. Both multivariate effects are significant (Effect of Trait within positive Trait Valence:  $\Lambda = .29$ ,  $F(2,104) = 127.087$ ,  $p < .001$ ; Effect of Trait within Negative Trait Valence:  $\Lambda = .74$ ,  $F(2,104) = 17.93$ ,  $p < .001$ ). The univariate simple effects showed that positive Honesty/Humility/Virtue traits were significantly more relevant than positive Agreeableness traits [HEXACO traits:  $\Lambda = .44$ ,  $F(1,105) = 134.52$ ,  $p < .001$ , ( $M = 5.80$  and  $M = 4.80$ ); 8-factor traits:  $\Lambda = .33$ ,  $F(1,105) = 213.052$ ,  $p < .001$ , ( $M = 6.16$  and  $M = 4.80$ )]. The same pattern was observed for negative traits with negative Honesty/Humility/Virtue traits perceived as more relevant than negative Agreeableness traits [HEXACO traits:  $\Lambda = .83$ ,  $F(1,105) = 21.95$ ,  $p < .001$ , ( $M = 5.76$  and  $M = 5.36$ ); 8-factor traits:  $\Lambda = .79$ ,  $F(1,105) = 27.66$ ,  $p < .001$ , ( $M = 5.38$  and  $M = 4.90$ )].

<sup>6</sup> A final two-way interaction was observed between Gender and Iteration. This was the only effect that involved either of these variables. While the multivariate ( $\Lambda = .92$ ,  $F(2,104) =$

---

4.63,  $p = .012$ ) and HEXACO ( $F(1,105) = 6.5$ ,  $p = .012$ ) findings were significant, the 8-factor effect was marginal ( $F(1,105) = 2.8$ ,  $p = .097$ ). There was a significant multivariate effect of iteration for men ( $\Lambda = .91$ ,  $F(2,104) = 5.07$ ,  $p = .008$ ), but not for women ( $\Lambda = .96$ ,  $F(2,104) = .78$ ,  $p = .46$ ). Both univariate simple effects for men showed that they rated traits as more relevant in non-iterated situations [HEXACO:  $F(1,105) = 8.76$ ,  $p = .004$ , ( $M = 5.70$  and  $M = 4.98$ ); 8-factor:  $F(1,105) = 5.00$ ,  $p = .028$ , ( $M = 5.56$  and  $M = 4.93$ )]. Neither univariate effect for women showed a significant effect [HEXACO:  $F(1,105) = .22$ ,  $p = .64$ , ( $M = 5.47$  and  $M = 5.57$ ); 8-factor:  $F(1,105) = .001$ ,  $p = .97$ , ( $M = 5.38$  and  $M = 5.37$ )]. It is also possible to analyze this interaction by Gender effects within each level of Iteration. This analysis revealed no gender effect in non-iterated situations [Multivariate:  $\Lambda = .99$ ,  $F(2,104) = .62$ ,  $p = .54$ ; HEXACO:  $F(1,105) = .98$ ,  $p = .33$ , ( $M = 5.70$  and  $M = 5.47$ ); 8-factor:  $F(1,105) = .49$ ,  $p = .49$ , ( $M = 5.56$  and  $M = 5.38$ )]. For iterated situations, there were significant effects for the multivariate test ( $\Lambda = .91$ ,  $F(2,104) = 5.04$ ,  $p = .008$ ) and the HEXACO traits [ $F(1,105) = 6.80$ ,  $p = .01$ , ( $M = 4.98$  and  $M = 5.57$ )]. There was also a marginal effect for the 8-factor traits [ $F(1,105) = 2.76$ ,  $p = .10$ , ( $M = 4.93$  and  $M = 5.37$ )]. Both univariate effects showed that men rate traits as more relevant than do women in iterated situations (see above means). See Table 7 for the means of this interaction.

<sup>7</sup> The analyses revealed one three-way interaction between Trait, Trait Valence, and Situation. This interaction had a significant multivariate effect ( $\Lambda = .80$ ,  $F(2,104) = 12.90$ ,  $p < .001$ ) and was significant for the 8-factor traits ( $F(1,105) = 21.18$ ,  $p < .001$ ), but was non-significant for the HEXACO traits ( $F(1,105) = .17$ ,  $p = .68$ ). This interaction was decomposed into component two-way interactions. The clearest picture emerged when the interaction was broken down by Trait. The two-way interaction between Trait Valence and Situation was significant (marginal for the HEXACO traits) for Agreeableness traits [Multivariate:  $\Lambda = .79$ ,  $F(2,104) = 14.26$ ,  $p < .001$ ; HEXACO traits:  $F(1,105) = 2.71$ ,  $p = .10$ ; 8-factor traits:  $F(1,105) = 21.61$ ,  $p < .001$ ], but non-significant for Honesty/Humility/Virtue traits [Multivariate:  $\Lambda = .96$ ,  $F(2,104) = 2.09$ ,  $p = .13$ ; HEXACO traits:  $F(1,105) = 1.28$ ,  $p = .26$ ; 8-factor traits:  $F(1,105) = .36$ ,  $p = .55$ ].

For positive Agreeableness traits, the effect of situation was significant (Multivariate:  $\Lambda = .68$ ,  $F(2,104) = 24.76$ ,  $p < .001$ ; HEXACO:  $\Lambda = .68$ ,  $F(1,105) = 49.37$ ,  $p < .001$ ; 8-factor:  $\Lambda = .83$ ,  $F(1,105) = 21.86$ ,  $p < .001$ ). Positive Agreeableness traits were less relevant to PDG situations than they were to BOS situations [HEXACO: ( $M = 4.30$  and  $M = 5.30$ ); 8-factor: ( $M = 4.47$  and  $M = 5.13$ )]. Negative Agreeableness traits were also less relevant to PDG situations than to BOS situations [Multivariate:  $\Lambda = .54$ ,  $F(2,104) = 43.90$ ,  $p < .001$ ; HEXACO:  $\Lambda = .82$ ,  $F(1,105) = 23.06$ ,  $p < .001$ , ( $M = 5.03$  and  $M = 5.70$ ); 8-factor:  $\Lambda = .97$ ,  $F(1,105) = 3.51$ ,  $p = .064$  ( $M = 5.03$  and  $M = 4.77$ )]. This effect was marginal for the 8-factor traits and significant for the HEXACO traits and multivariate statistics. The interaction appeared to be driven by a

This was especially the case for the HEXACO traits and for positive traits. The main effect of Trait seemed to be a powerful factor in participants' minds. This was unexpected, but not especially disheartening.

---

reduction in the effect (primarily for the 8-factor traits) of situation on trait relevance when negative Agreeableness traits were compared to positive Agreeableness traits.

While this three-way interaction involved Trait and Situation, it did not appear to be the case that the support of our hypotheses was substantially affected. At most, it may be true that results for the negative 8-factor traits supported the weaker hypotheses regarding the relevance of Agreeableness traits in different situations. Rather than those traits being more relevant to BOS situations than PDG situations, the effect of situation may simply have been smaller for Agreeableness traits than for Honesty/Humility/Virtue traits. In other words, Agreeableness traits would have been more afforded in BOS situations in a relative sense instead of an absolute one. This would make sense, given the main effect of situation observed for the 8-factor traits.

Separate analyses were conducted to test the two-way interaction of Trait and Situation for negative 8-factor traits. The effect was significant,  $F(1,53) = 14.77, p < .001$ . Analysis of the simple effects revealed a significant situation effect for Honesty/Humility/Virtue traits,  $\Lambda = .54, F(1,53) = 45.13, p < .001$ . Honesty/Humility/Virtue traits were more relevant in PDG situations than BOS situations ( $M = 5.79$  and  $M = 4.97$ ). The effect for Agreeableness traits was marginal, but the traits were rated as more relevant to PDG situations than BOS situations [ $\Lambda = .95, F(1,53) = 3.04, p = .087, (M = 5.03$  and  $M = 4.77)$ ]. This analysis of the Trait by Situation interaction for negative 8-factor traits supports the weak version of our hypotheses. See Table 8 for the means of the three-way interaction.

## CHAPTER 5

### DISCUSSION

This study demonstrated the concept of situational affordance of lexically-derived personality traits in different interdependence situations. Finding evidence for the differential affordance of traits depending on situation is an encouraging first step. The issue of combining the situational and trait approaches of personality theory, a vast theoretical chasm of great importance, is at least partially illuminated by these analyses. This study is simply a first step in linking a very systematic theory of situations to personality trait research. While interdependence theory may be enriched by its contact with personality research, so too might personality trait research benefit from an interdependence influence. Personality trait taxonomies are often criticized as being “atheoretical.” One option for researchers is to try to find a physiological basis for trait factors. Many researchers make oblique references to this approach. An interdependence theory approach, on the other hand, would seek to tie personality factors to individuals’ habitual reactions to the mathematical properties of patterns of outcomes in situations. For example, a difference in Honesty/Humility/Virtue may be a difference in reaction to a situation with non-correspondent outcomes. By itself, however, this study is merely a demonstration of concept and it has its difficulties.

#### *Non-hypothesized findings*

The effect of Trait, while not hypothesized, makes sense when viewed in the context of traditional Judeo-Christian morality. The Ten Commandments admonish people to “not

give false testimony,” (*Holy Bible, New International Version*, Exodus, 20.16) but do not command “thou shalt be agreeable.” As reflected in this disparity, honesty and associated traits may be more important to people’s judgments than traits associated with agreeableness.

## CHAPTER 6

### STUDY TWO

One drawback of our first study is that the scenarios created may be related to the traits in ways that have nothing to do with the pattern of outcomes. For instance, the trait “greedy” may be more relevant to the joint account scenario example of the PDG. This relevance would be a function of features that have been added to the underlying PDG structure. So, even if the scenario correctly approximates a PDG, there is no way ensure that differences observed in trait ratings are due to this structure. A potential solution for this problem would be to create “joint account scenarios” or “spring break scenarios” for both the PDG and BOS. Another solution would be to use the situations themselves without any scenario interpretation. While psychological reality is more abstract with matrices, the matrix approach allows us to confidently say that our results were due to the outcome patterns instead of anything added to scenario. This approach is what we decided to use for our second study.

#### *Hypotheses*

Our hypotheses for this experiment will be the largely the same as our hypotheses for the first experiment. We may expect in this case that Honesty/Humility/Virtue would be relevant to both matrices as “greedy” is encompassed by Honesty/Humility/Virtue and the outcomes in the matrices are different amounts of money. However, this should not present a problem because this characteristic of the matrices is held constant in both PDG and BOS situations (i.e. they both use money).

## CHAPTER 7

### METHOD

#### *Participants and materials*

The participants making up the preliminary data were 96 students (60 women and 36 men) from the undergraduate participant pool at the University of North Carolina at Chapel Hill. They received course credit in exchange for their participation. The materials for this study were the same as the previous experiment with a few exceptions. The introduction to the study was different (Appendix H). Also, participants were presented with one matrix (Figures 1 and 2) rather than several scenarios. Finally, participants were administered the 100-item HEXACO-PI-R (© Kibeom Lee, Ph.D. & Michael Ashton, Ph.D.) and Social Value Orientation (SVO) scales (Van Lange, Otten, De Bruin, & Joiremen, 1997) to assess whether participants' perceptions of relevance were related to their own personality traits. The SVO classifies participants into one of three categories (or no category at all): prosocial orientation, individualistic orientation, or competitive orientation. Participants are regarded as having an orientation if they make six choices consistent with that orientation.

#### *Procedure*

This experiment used a mixed 2 X 2 X 2 X 2 design. The between-subjects variables were Gender, Situation (PDG or BOS) and Trait Valence (positive or negative). The within-subjects variable was Trait (Honesty/Humility/Virtue or Agreeableness). This study was also a doubly repeated measures design with the traits from the HEXACO-PI and 8-factor solution. There was no iteration variable in this study.

The first portion of this experiment took place in a suite divided into several rooms encircling a common area. Upon entering the suite, participants were first seated around a table in this common area. They were randomly assigned numbers. These numbers were used to place the participants into interaction pairs. After completing a brief practice sheet, participants interacted in a single trial of interaction using either the PDG or BOS scenarios. Participants received a number of pennies corresponding to the values in the matrices and determined by the combination of their partner's choice with their own (see Figures 1 and 2).

The second portion of the experiment took place in the same setting as the first experiment and was very similar to it. Participants walked approximately 50 feet to the second room. Once entering, they immediately read the directions for the experiment (Appendix H) and began answering questions regarding the relevance of different traits to the situations in which they had interacted. They were asked to make their ratings about a hypothetical interaction with another person—not the person with whom they had interacted in the first portion of the experiment. The matrix they used for interaction was presented with each of the trait ratings they were asked to make. After making their ratings, participants completed the HEXACO-PI-R and SVO scales.

## CHAPTER 8

### RESULTS

#### *Scales and reliabilities*

Reliabilities for the main dependent variables were calculated separately by scale, Trait, Trait Valence, and Situation. All alpha coefficients were above  $\alpha = .75$  (see Table 8). Traits were combined into scale ratings consistent with study one (with the exception that there was only one example of each type of situation). The reliabilities of the HEXACO-PI-R trait scales were also calculated [Honesty/Humility:  $\alpha = .83$ ; Emotional Stability:  $\alpha = .85$ ; Extraversion:  $\alpha = .86$ ; Agreeableness:  $\alpha = .86$ ; Conscientiousness:  $\alpha = .87$ ; Openness:  $\alpha = .82$ ]. The variables making up each scale were combined into scale ratings. The SVO scale questions were scored and count variables were created. Consistent with Van Lange et al. (1997), participants were classified according to their choices.

The data were tested for nonindependence of pair members using the double-entry method described by Kenny, Kashy, and Cook (2006). Both the HEXACO ( $r = .38, z = 2.65, p = .008$ ) and 8-factor ( $r = .41, z = 2.83, p = .005$ ) scales were found to be significantly nonindependent for Honesty/Humility/Virtue. This was not the case for Agreeableness (HEXACO:  $r = .095, z = .66, p = .51$ ; 8-factor:  $r = .058, z = .40, p = .69$ ). Due to the nonindependence of the scales for Honesty/Humility/Virtue within pair members, the analyses were conducted with the pair as the unit of analysis. Correlations between the Honesty/Humility/Virtue scale ratings and Agreeableness ratings for the HEXACO and 8-factor scales within each type of situation are listed in Table 10.

## *Gender*

The initial analyses revealed no significant main effects or interaction involving Gender. Therefore, Gender was dropped from the analyses yielding a simpler, mixed 2 X 2 X 2 design. The remaining between-subjects variables were Situation (PDG or BOS) and Trait Valence (positive or negative). The within-subjects variable did not change [Trait (Honesty/Humility/Virtue or Agreeableness)].

## *Main Effects*

Three multivariate main effects were observed. The Trait effect was significant,  $\Lambda = .18$ ,  $F(2,43) = 95.52$ ,  $p < .001$ . As observed in the previous study's univariate analyses, both the HEXACO [ $F(1,44) = 195.02$ ,  $p < .001$ , ( $M = 5.91$  and  $M = 4.10$ )] and 8-factor ( $F(1,44) = 87.70$ ,  $p < .001$ , ( $M = 5.63$  and  $M = 4.20$ )] effects were significant with Honesty/Humility/Virtue traits being more relevant than Agreeableness traits.<sup>89</sup>

## *Trait by Situation interaction*

The analysis of the Trait by Situation interaction revealed a significant multivariate effect ( $\Lambda = .81$ ,  $F(2,43) = 5.01$ ,  $p = .011$ ), with two significant univariate effects (HEXACO traits:  $F(1,44) = 8.63$ ,  $p = .005$ ; 8-factor traits:  $F(1,44) = 8.11$ ,  $p = .007$ ). The means are in

---

<sup>8</sup> The effect of the Situation was significant,  $\Lambda = .86$ ,  $F(2,43) = 3.66$ ,  $p = .034$ . Neither of the univariate effects were significant [HEXACO:  $F(1,44) = .32$ ,  $p = .58$ , ( $M = 4.91$  and  $M = 5.09$ ), 8-factor traits:  $F(1,44) = .43$ ,  $p = .52$ , ( $M = 5.02$  and  $M = 4.81$ )]. The descriptive trends differed from one another with traits being more relevant to the BOS for the HEXACO scale and traits being more relevant to the PDG for the 8-factor scale.

<sup>9</sup> The Trait Valence effect was significant,  $\Lambda = .62$ ,  $F(2,43) = 13.38$ ,  $p < .001$ . Neither of the univariate effects of Trait Valence were significant or marginal [HEXACO:  $F(1,44) = .69$ ,  $p = .41$ , ( $M = 4.87$  and  $M = 5.14$ ), 8-factor traits:  $F(1,44) = 2.21$ ,  $p = .14$ , ( $M = 5.16$  and  $M = 4.68$ )]. The descriptive trends differed from each other, but this mirrored the pattern observed in the previous study. The HEXACO traits showed a descriptive trend toward negative traits being more relevant while the 8-factor traits showed a descriptive trend toward positive traits being more relevant.

Table 11. Upon examination of the simple effects of situation within each trait, we found a significant effect of situation with Honesty/Humility/Virtue traits ( $\Lambda = .86$ ,  $F(2,43) = 3.56$ ,  $p = .037$ ) and a marginal effect of situation with Agreeableness traits ( $\Lambda = .90$ ,  $F(2,43) = 2.44$ ,  $p = .099$ ). The univariate simple effects showed a descriptive trend towards Honesty/Humility/Virtue traits being more relevant in the PDG than the BOS for the HEXACO scale [ $F(1,44) = .30$ ,  $p = .59$ , ( $M = 6.01$  and  $M = 5.81$ )] and a marginal effect of Honesty/Humility/Virtue traits being more relevant in the PDG than the BOS for the 8-factor scale [ $F(1,44) = 2.98$ ,  $p = .091$  ( $M = 5.95$  and  $M = 5.31$ )]. Agreeableness traits showed a marginal effect of being less relevant in the PDG and more relevant in the BOS for the HEXACO scale [ $F(1,44) = 3.07$ ,  $p = .087$ , ( $M = 3.82$  and  $M = 4.38$ )] and a descriptive trend toward being less relevant in the PDG and more relevant in the BOS for the 8-factor scale [ $F(1,44) = .44$ ,  $p = .51$ , ( $M = 4.09$  and  $M = 4.32$ )]. The descriptive pattern of means was consistent with that predicted by our strong hypotheses. The pattern was also similar to the one observed in the first study. However, not all of the simple effects were significant. Thus, our hypotheses were not supported in their strongest form, but received a weaker degree of support.

In the alternative breakdown of the Situation by Trait interaction, we found that the multivariate simple effects of trait are significant for each type of situation (PDG:  $\Lambda = .23$ ,  $F(2,43) = 70.74$ ,  $p < .001$ ; BOS:  $\Lambda = .42$ ,  $F(2,43) = 29.80$ ,  $p = .001$ ). The univariate effects revealed that there was a significant effect where Honesty/Humility/Virtue traits were more relevant in PDG situations than were Agreeableness traits [HEXACO traits:  $\Lambda = .24$ ,  $F(1,44) = 142.86$ ,  $p < .001$ , ( $M = 6.01$  and  $M = 3.82$ ); 8-factor traits:  $\Lambda = .37$ ,  $F(1,44) = 74.57$ ,  $p < .001$ , ( $M = 5.95$  and  $M = 4.09$ )]. However, this pattern was not reversed in the BOS

situations. The overall pattern was the same, but the differences were descriptively smaller. The difference remained significant for HEXACO traits,  $\Lambda = .42$ ,  $F(1,44) = 60.80$ ,  $p = .001$ , ( $M = 5.81$  and  $M = 4.38$ ). It was also significant for the 8-factor traits,  $\Lambda = .67$ ,  $F(1,44) = 21.23$ ,  $p < .001$ , ( $M = 5.31$  and  $M = 4.32$ ). This pattern was consistent with the weak version of our hypotheses and also duplicated the pattern observed for the 8-factor traits in the first study (See Table 11). This again appeared to be a reflection of participants' tendency to rate Honesty/Humility/Virtue traits as being more relevant regardless of situation.

#### *Trait and Trait Valence interaction*

There was one other significant interaction effect. The two-way interaction between Trait and Trait Valence reached conventional levels of significance in its multivariate statistic and both univariate statistics (Multivariate:  $\Lambda = .72$ ,  $F(2,43) = 8.32$ ,  $p = .001$ ; HEXACO traits:  $F(1,44) = 17.02$ ,  $p < .001$ ; 8-factor traits:  $F(1,44) = 7.07$ ,  $p = .011$ ). The simple effects of Trait Valence for Honesty/Humility/Virtue were significant for the multivariate ( $\Lambda = .76$ ,  $F(2,43) = 6.82$ ,  $p = .003$ ) and 8-factor results ( $F(1,44) = .5.62$ ,  $p = .022$ ) and non-significant for the HEXACO ( $F(1,44) = .53$ ,  $p = .47$ ). Descriptively, both univariate patterns indicated that positive Honesty/Humility/Virtue traits were more relevant than negative [HEXACO: ( $M = 6.04$  and  $M = 5.77$ ); 8-factor ( $M = 6.07$  and  $M = 5.19$ )]. However, only the results for the 8-factor scale were significant. The multivariate simple effect of Trait Valence was significant for Agreeableness traits,  $\Lambda = .66$ ,  $F(2,43) = 11.03$ ,  $p < .001$ . Positive Agreeableness traits were significantly less relevant than negative Agreeableness traits for the HEXACO scale

[ $F(1,44) = 6.26, p = .016, (M = 3.70$  and  $M = 4.50)$ ], but not for the 8-factor scale [ $F(1,44) = .047, p = .83, (M = 4.24$  and  $M = 4.17)$ ].<sup>10</sup> See Table 12 for the means of this interaction.

### *HEXACO-PI-R and SVO*

A series of bivariate correlations was conducted with the HEXACO-PI-R subscales and the HEXACO and 8-factor Honesty/Humility/Virtue and Agreeableness scales. None of the HEXACO-PI-R subscales significantly correlated with any of the relevance ratings. See Table 13 for these correlations. The Honesty/Humility subscale was significantly correlated with the Openness subscale,  $r(46) = .31, p = .036$ . The Emotional Stability subscale was significantly correlated with the Conscientiousness subscale,  $r(46) = .35, p = .016$ . The subscales were also added as covariates (separately) to the doubly repeated measures design previously tested. None of the subscales were related to the main outcome variables

[Honesty/Humility:  $\Lambda = .99, F(2,42) = .21, p = .81$ ; Emotional Stability:  $\Lambda = .98, F(2,42) = .39, p = .68$ ; Extraversion:  $\Lambda = .98, F(2,42) = .52, p = .60$ ; Agreeableness:  $\Lambda = .94, F(2,42) = 1.27, p = .29$ ; Conscientiousness:  $\Lambda = .93, F(2,42) = 1.57, p = .22$ ; Openness:  $\Lambda = .99, F(2,42) = .17, p = .84$ ].

The SVO scale responses were used to categorize individual participants according to social value orientation. In the paired data, this created 3 different possible types of pairs for

---

<sup>10</sup> In the alternative view, positive Honesty/Humility/Virtue traits were significantly more relevant than positive Agreeableness traits [Multivariate:  $\Lambda = .21, F(2,43) = 80.09, p < .001$ ; HEXACO traits:  $\Lambda = .21, F(1,44) = 163.63, p < .001, (M = 6.04$  and  $M = 3.70)$ ; 8-factor traits:  $\Lambda = .38, F(1,44) = 72.29, p < .001, (M = 6.07$  and  $M = 4.24)$ ]. While the effects of Trait Valence for negative traits were descriptively smaller, the overall pattern was similar with negative Honesty/Humility/Virtue traits more relevant than negative Agreeableness traits [(Multivariate:  $\Lambda = .48, F(2,43) = 23.75, p < .001$ ; HEXACO traits:  $\Lambda = .48, F(1,44) = 48.41, p < .001, (M = 5.77$  and  $M = 4.50)$ ; 8-factor traits:  $\Lambda = .66, F(1,44) = 22.48, p < .001, (M = 5.19$  and  $M = 4.17)$ ].

each variable. For instance, a pair could have zero prosocial people, one prosocial person, or two prosocial people. Data for competitiveness were not analyzed due to the fact that only one participant showed a competitive orientation. Thus, two variables were analyzed (prosocial and individualistic). The relations of these variables to the HEXACO and 8-factor outcome variables were analyzed with a series of one-way ANOVAs. No significant effects were found for the prosocial variable [HEXACO H/H/V:  $F(2,45) = .41, p = .67$ ; HEXACO Agreeableness:  $F(2,45) = .37, p = .69$ ; 8-factor H/H/V:  $F(2,45) = 1.21, p = .31$ ; 8-factor Agreeableness:  $F(2,45) = 1.59, p = .22$ ] or the individualistic variable [HEXACO H/H/V:  $F(2,45) = 1.34, p = .27$ ; HEXACO Agreeableness:  $F(2,45) = .82, p = .45$ ; 8-factor H/H/V:  $F(2,45) = .14, p = .87$ ; 8-factor Agreeableness:  $F(2,45) = .24, p = .79$ ]. These variables were also added as covariates (separately) to the previously tested doubly repeated measures design. While the three-level variables may not be ideal for this purpose, these tests were conducted to provide a degree of consistency between the HEXACO-PI-R analyses and the SVO analyses. Neither the prosocial variable ( $\Lambda = .94, F(2,42) = 1.29, p = .29$ ) nor the individualistic variable ( $\Lambda = .99, F(2,42) = .03, p = .97$ ) were significantly associated with the outcome variables.

Overall, there was a fair amount of support for our hypotheses in this experiment. The two-way interaction was not qualified by any three-way interactions in this sample. Furthermore, there were overall similarities of effect patterns in studies one and two.

## CHAPTER 9

### DISCUSSION

The complementarity of the person and the interpersonal situation can be described as the “affordance” of various individual differences in different abstract situations. In personality theory, two popular approaches focus on either the traits a person may possess or the stable situation-behavior profiles that describe a person’s actions across time. Many trait theorists use methods based on the lexical hypothesis (Goldberg, 1982). The HEXACO personality inventory (Lee & Ashton, 2004) and the 8-factor personality scale (De Raad & Barelds, 2008) used in this research represent two lexically-derived personality taxonomies.

On the other end of the spectrum, the CAPS model of personality developed by Mischel and Shoda (2005) describes personality in relation to the situation. While not perfectly suited for our purposes, the CAPS model provides some of the conceptual basis of our approach. The SABI model (Holmes, 2002) connects the situational approach to personality with interdependence theory. Our current research used situations from interdependence theory and lexical personality traits to demonstrate perceived differential affordance (related to perceived interaction goals as signified by the “B” of the SABI model).

#### *Main effect*

The most notable main effect across these two experiments was the effect of Trait. In the second experiment it is not surprising that Honesty/Humility/Virtue was perceived to be more relevant than Agreeableness because both situations were matrices with monetary outcomes. Honesty/Humility/Virtue encompasses greed and thus should be relevant to both

matrix situations. It is perhaps more interesting to observe this in the first experiment. Part of this effect may be explained by the superficial characteristics of the scenarios used in the first study. However, it is likely that much of this main effect results from a genuine tendency for participants to perceive Honesty/Humility/Virtue traits as more relevant across all situations. After all, moral codes in many societies emphasize honesty, trustworthiness, humility and other such Honesty/Humility/Virtue traits. The same codes are less likely to explicitly admonish individuals to be Agreeable. Thus, it makes sense that people would think that dishonesty, for example, is a more relevant characteristic than disagreeableness.

#### *Trait by Situation interaction*

The Trait by Situation interaction was significant in both experiments. In the first study, most of the simple effects were significant and in the opposite direction of one another. The second study replicated this pattern in a more relative sense. In particular, the difference in perceived affordance of the type of traits across situations was a difference in degree. Honesty/Humility/Virtue was perceived as more relevant than Agreeableness to a higher degree in the PDG than the BOS. Honesty/Humility/Virtue showed a trend of being more relevant to the PDG than to the BOS in both studies and Agreeableness showed a trend of being more relevant to the BOS than to the PDG.

Despite the lack of significance in some of the simple effects and the dominance of Honesty/Humility/Virtue, our results presented two significant interactions between Trait and Situation. Though we may be forced to acknowledge that the strongest version of our hypotheses may not be warranted for all cases, our results clearly showed a difference in the perceived affordance of traits across different interdependence situations. This represents a valuable demonstration of concept and is a promising step forward in this area of research.

### *Strengths and weaknesses*

Our approach has made added several refinements to Kirchner's (2005) methodology of studying perceived affordance. First, we used lexically-derived personality traits to connect our approach to a larger body of research. Equally as important, we used the interdependence matrices themselves to demonstrate perceived affordance. In this way, we were able to address concerns that the superficial characteristics of the dating scenarios were influencing ratings of perceived affordance. Our approach also makes an attempt to unify disparate approaches to studying personality.

One of the limitations of this set of studies is the fact that perceived affordance rather than conventional affordance was addressed. While this approach may be justifiable under an SABI conceptualization, the important point of personality's prediction of behavior was left largely unexplored in this set of studies. For practical reasons we restricted ourselves to a limited number situations and personality factors in this research. The differences in relative strength of effects observed rather than differences in directions of effects also reveals that the issue under study may be expressed more subtly than anticipated. It is not a simple case of Agreeableness being perceived as afforded in BOS situations and Honesty/Humility/Virtue being perceived as afforded in PDG situations. Finally, this study did not address the issue of index of correspondence/noncorrespondence addressed in Kirchner's (2005) work. This may be a subject of future research.

### *Future directions*

A natural next step for this research would be to address conventional affordance with these traits in these situations. This would entail administering personality inventories prior to having participants interact in the PDG and BOS scenarios. If participants' personality

traits moderate the effects of situation on choice, conventional affordance could be said to have been afforded.

The concept of affordance is a valuable tool to link personality traits to both the situational approach to personality and social psychology in general. Interdependence theory is also enriched by this approach. If traits can be mapped onto the properties of interdependence (such as index of correspondence/noncorrespondence), it may be possible to show that conceptions of personality are related to the properties of situations as described in interdependence theory. This may suggest ways in which some aspects of interdependence theory may be reconceptualized or expanded. For instance, the concept of “comparison level” in interdependence theory describes a person’s internalized standards that affect their evaluations of outcomes in a given situation. Individual differences in the comparison level are discussed briefly in Thibaut and Kelley (1959)—mainly in relation to the power a person possesses. However, a trait like Extraversion that leads a person to seek interaction may figure into an individual’s comparison level as well. The trait approach to personality may also profit from an additional theoretical basis that could conceivably work cooperatively with other personality explanations. This type of thinking may be premature, but it is possible that these studies only scratch the surface of an exciting area of research.

Future research may attempt to demonstrate perceived or conventional affordance of other personality traits to the current set of situations. For example, Emotional Stability may be relevant to the PDG. In discontinuity research (Wildschut et al., 2003) competition by groups interacting in a PDG often results from distrust or “fear.” This type of fearfulness may be a variable that is related to Emotional Stability. Other interdependence situations may be explored. The “leader” (LDR) is a coordination situation similar to the BOS situation. Its

primary difference is that if both individuals attempt to make the highest payoff, both get the lowest payoff. When communication is impaired in such a situation, outcome maximization becomes trickier than with the BOS because pursuing the highest outcome in a BOS will at worst lead to the third-highest outcome. Therefore, the social boldness aspects of Extraversion may come into play or the fearfulness of Emotional Stability may have a role in determining behavior.

It may be the case that some aspects of interdependence theory cannot be related to personality. We may discover that some traits do not lend themselves to a situational analysis. Openness comes to mind. However, there are many important research questions that still have to be asked. Future studies may attempt to apply and disentangle different dimensions of interdependence. While this set of studies found no effect of iteration, iteration may relate to a personality trait such as Conscientiousness we did not address in this study. Future methodologies might include a mix of matrix-based scenarios and matrices. Iteration may be useful as well as situations involving “noise” where participants are unsure that their choice or another person’s will be accurately transmitted. Non-symmetric matrices may relate to the dominance aspects of Extraversion. Potentially, this study will serve as a first step in exploring those possibilities.

#### *Broader implications*

As Kirchner (2005) explained, the affordance of personality traits in different situations may have implications for interpersonal relationships. It seems apparent that an individual’s personality characteristics may influence or be perceived as more important in a relationship to the extent that the relationship encounters different types of basic situations. Certain aspects of an individual’s personality that may be detrimental may not be expressed

if the situations encountered do not afford them. Conversely, character strengths may not be revealed unless the situation affords them. The concept of situational affordance may be developed into a useful tool for the analysis of relationship issues. Similar thinking may be extended to business negotiation settings, criminal justice settings, or any one of a number of other contexts of human interaction.

A more theory-focused point would be the possibility for the expansion of the concept of affordance in interdependence theory. While the concept of affordance has been explained previously (Kelley & Thibaut, 1978; Kelley et al., 2003), it would be helpful to specify what may be afforded in specific situations. Also, discovering affordances of various personality traits may aid in the development of situation-focused personality trait inventories similar to Denissen & Penke's (2008) efforts.

### *Summary*

In summary, two studies found evidence for the differential perceived affordance of personality traits in several scenarios and matrix representations based on two abstract types of interdependence situations. Specifically, Honesty/Humility/Virtue was more relevant to PDG-type situations than BOS-type situations. Agreeableness was more relevant to BOS-type situations than PDG-type situations.

Table 1

*Spearman-Brown corrected correlations between scenario ratings as a function of situation and trait from study 1*

Situation Type	PDG	BOS
	HEXACO	
Trait		
H/H/V	.66	.81
Agreeableness	.53	.72
	8-factor	
Trait		
H/H/V	.76	.82
Agreeableness	.76	.80

Table 2

*Cronbach's  $\alpha$  coefficient as a function of trait, trait valence, and situation from study 1*

	Honesty/Humility/Virtue		Agreeableness	
	Situation		Situation	
	PDG	BOS	PDG	BOS
HEXACO				
Trait Valence				
Positive	.73	.79	.80	.73
Negative	.66	.80	.86	.84
8-factor				
Trait Valence				
Positive	.81	.91	.84	.69
Negative	.79	.83	.89	.88

Table 3

*Correlations between HEXACO and 8-factor trait relevance measures by situation from study 1*

	PDG Situation			
	1	2	3	4
HEXACO trait relevance ratings				
1. Honesty/Humility/Virtue				
2. Agreeableness	.59			
8-factor trait relevance ratings				
3. Honesty/Humility/Virtue	.67	.43		
4. Agreeableness	.62	.86	.50	
	BOS Situation			
	1	2	3	4
HEXACO trait relevance ratings				
1. Honesty/Humility/Virtue				
2. Agreeableness	.61			
8-factor trait relevance ratings				
3. Honesty/Humility/Virtue	.79	.52		
4. Agreeableness	.83	.77	.75	

*Note.*  $N = 113$ . All correlations significant at .01 level.

Table 4

*Mean relevance as a function of situation type and trait from study 1*

	PDG	BOS
	HEXACO	
Trait		
H/H/V	6.30	5.26
Agreeableness	4.66	5.50
	8-factor	
Trait		
H/H/V	6.21	5.33
Agreeableness	4.75	4.95
	Average of HEXACO and 8-factor	
Trait		
H/H/V	6.26	5.29
Agreeableness	4.70	5.22

Table 5

*Mean relevance as a function of situation type and trait valence from study 1*

Situation Type	PDG	BOS
	HEXACO	
Trait Valence		
Positive	5.28	5.31
Negative	5.68	5.44
	8-factor	
Trait Valence		
Positive	5.55	5.41
Negative	5.41	4.87
	Average of HEXACO and 8-factor	
Trait Valence		
Positive	5.41	5.36
Negative	5.55	5.15

Table 6

*Mean relevance as a function of trait and trait valence from study 1*

Trait Valence	Positive	Negative
HEXACO		
Trait		
H/H/V	5.80	5.76
Agreeableness	4.80	5.36
8-factor		
Trait		
H/H/V	6.16	5.38
Agreeableness	4.80	4.90
Average of HEXACO and 8-factor		
Trait		
H/H/V	5.98	5.57
Agreeableness	4.80	5.13

Table 7

*Mean relevance as a function of gender and iteration from study 1*

Gender	Male	Female
HEXACO		
Iteration Level		
Non-iterated	5.70	5.47
Iterated	4.98	5.57
8-factor		
Iteration Level		
Non-iterated	5.56	5.38
Iterated	4.93	5.37
Average of HEXACO and 8-factor		
Iteration Level		
Non-iterated	5.63	5.43
Iterated	4.95	5.47

Table 8

*Mean ratings of relevance as a function of trait, trait valence, and situation from study 1*

	Honesty/Humility/Virtue		Agreeableness	
	Situation		Situation	
	PDG	BOS	PDG	BOS
HEXACO				
Trait Valence				
Positive	6.27	5.33	4.30	5.30
Negative	6.34	5.18	5.03	5.70
8-factor				
Trait Valence				
Positive	6.63	5.69	4.47	5.13
Negative	5.79	4.97	5.03	4.77
Average of HEXACO and 8-factor				
Trait Valence				
Positive	6.45	5.51	4.38	5.21
Negative	6.06	5.07	5.03	5.23

Table 9

*Cronbach's  $\alpha$  coefficient as a function of trait, trait valence, and situation from study 2*

	Honesty/Humility/Virtue		Agreeableness	
	Situation		Situation	
	PDG	BOS	PDG	BOS
HEXACO				
Trait Valence				
Positive	.80	.82	.81	.76
Negative	.89	.91	.84	.82
8-factor				
Trait Valence				
Positive	.82	.90	.76	.87
Negative	.88	.85	.93	.78

Table 10

*Correlations between HEXACO and 8-factor trait relevance measures by situation from study 2*

	PDG Situation			
	1	2	3	4
HEXACO trait relevance ratings				
1. Honesty/Humility/Virtue				
2. Agreeableness	.59			
8-factor trait relevance ratings				
3. Honesty/Humility/Virtue	.87	.37**		
4. Agreeableness	.67	.78	.50*	
	BOS Situation			
	1	2	3	4
HEXACO trait relevance ratings				
1. Honesty/Humility/Virtue				
2. Agreeableness	.70			
8-factor trait relevance ratings				
3. Honesty/Humility/Virtue	.86	.44*		
4. Agreeableness	.78	.75	.71	

*Note.*  $N = 48$ . \* indicates significance at .05 level. \*\* indicates marginal finding. All other correlations significant at .01 level.

Table 11

*Mean relevance as a function of situation type and trait from study 2*

	PDG	BOS
	HEXACO	
Trait		
H/H/V	6.01	5.81
Agreeableness	3.82	4.38
	8-factor	
Trait		
H/H/V	5.95	5.31
Agreeableness	4.09	4.32
	Average of HEXACO and 8-factor	
Trait		
H/H/V	5.98	5.56
Agreeableness	3.96	4.35

Table 12

*Mean relevance as a function of trait and trait valence from study 2*

Trait Valence	Positive	Negative
HEXACO		
Trait		
H/H/V	6.04	5.77
Agreeableness	3.70	4.50
8-factor		
Trait		
H/H/V	6.07	5.19
Agreeableness	4.24	4.17
Average of HEXACO and 8-factor		
Trait		
H/H/V	6.05	5.48
Agreeableness	3.97	4.34

Table 13

*Correlations between HEXACO factors and trait relevance measures from study 2*

	H	E	X	A	C	O
<b>HEXACO trait relevance ratings</b>						
Honesty/Humility/Virtue	.033	.028	.058	.036	.13	.031
Agreeableness	.16	.052	.057	-.039	.23	.067
<b>8-factor trait relevance ratings</b>						
Honesty/Humility/Virtue	-.071	.055	-.053	-.082	.011	-.081
Agreeableness	.10	.009	-.029	.021	.11	.21

*Note.*  $N = 48$ . No significant correlations.

Figure 1:

PDG matrix

		You	
		X	Y
Other Person	X	160 <b>160</b>	200 <b>50</b>
	Y	50 <b>200</b>	100 <b>100</b>

Figure 2:

BOS matrix

You

		X	Y
Other Person	X	50 50	200 160
	Y	160 200	100 100

## Appendix A

### Situation A:

One spring break, you and your partner decide to both take beach vacations with several friends from college. However, you both think it's best to be in separate vacation spots so each of you can be with his or her group of same sex friends. It is also very likely that attractive individuals will approach both you and your partner at some point during the week and the temptation to cheat might be very strong.

## Appendix B

### Situation B:

You and your partner have jointly saved a fair amount of money in a joint bank account. You intend to use this money to buy something nice that you can both enjoy. Over the weekend, you plan on taking a day-trip to New York. It may be tempting for either one of you to dip into the bank account and buy yourself something nice.

## Appendix C

### Situation C:

You and your partner would really like to be together on Friday night and decide to go to the movies. Although you have slightly different preferences for which movie to see, the other person's favorite could be enjoyable as well. Each of you could go to see your preferred movie separately, but it would be better if you could spend the evening together.

### Situation D:

You and your partner are spending a Saturday evening together. Your partner thinks it would be a great idea to spend the night out on Franklin St. Normally, going out is a fun thing for you, but on this evening you would prefer to stay in and watch a movie with your partner instead. Although your partner does prefer to go out on Franklin St., he or she usually enjoys spending a night in as well.

## Appendix D

### Situation A:

You and your partner frequently decide to both take beach vacations with several friends from college. However, you both often think it's best to be in separate vacation spots so each of you can be with his or her group of same sex friends. It is also very likely that attractive individuals will approach both you and your partner at some point during these vacations and the temptation to cheat might be very strong.

### Situation B:

You and your partner have jointly saved a fair amount of money in a joint bank account. You intend to use this money to buy something nice that you can both enjoy. Soon, you plan on taking a week-long trip to New York. On this trip, either one of you might frequently be tempted to dip into the bank account and buy yourself something nice.

### Situation C:

You and your partner usually like to be together on Friday night and frequently decide to go to the movies. Although you usually have slightly different preferences for which movies to see, it is most often the case that the other person's favorite could be enjoyable as well. Each of you could go to see your preferred movie separately, but it would be better if you could spend the evening together. You have an unspoken agreement that you will take turns with regards to whose preferred movie you go to see.

### Situation D:

You and your partner usually spend Saturday evenings together. Your partner often thinks it would be a great idea to spend the night out on Franklin St. Normally, going out is also a fun thing for you, but you would prefer to stay in and watch a movie with your partner instead. Although your partner does prefer to go out on Franklin St., he or she usually enjoys spending a night in as well. You have an unspoken agreement that you will take turns with regards to whose preferred activity you do.

## Appendix E

### Positive Honesty/Humility/Virtue traits from the HEXACO-PI:

modest  
discreet  
loyal  
unselfish  
sincere  
honest  
fair  
trustworthy

### Negative Honesty/Humility/Virtue traits from the HEXACO-PI:

greedy  
dishonest  
untrustworthy  
selfish  
sly  
hypocritical  
pompous  
cunning

### Positive Agreeableness traits from the HEXACO-PI:

patient  
peaceful  
tolerant  
mild  
agreeable  
warm  
lenient  
gentle

### Negative Agreeableness traits from the HEXACO-PI:

quarrelsome  
stubborn  
heartless  
sharp-tongued  
spiteful  
argumentative  
demanding  
harsh

Positive Honesty/Humility/Virtue traits from the 8-factor:

a friendly person  
a loyal person  
someone with common sense  
a decent person  
a sincere person  
a good person  
an honest person  
a trustworthy person

Negative Honesty/Humility/Virtue traits from the 8-factor:

an unfair person  
an unsympathetic person  
an obtuse person  
an indecent person  
a swindler  
a treacherous person  
an unreliable person  
a dishonest person

Positive Agreeableness traits from the 8-factor:

a patient person  
a modest person  
a goodhearted person  
a flexible person  
a mild person  
a helpful person  
a good-humored person  
someone who accepts things easily

Negative Agreeableness traits from the 8-factor:

a bossy person  
someone who orders people around  
someone who is easily irritated  
a dominant person  
someone who wants to have the last word  
someone who snaps at people  
someone who seeks conflict  
someone who does most of talking

## Appendix F

### Description of a Potential Dating Partner

Below, you will be presented with a description of a potential dating partner. Read the description carefully and then try to imagine being in a dating relationship with this person. You may automatically think about a person you have dated previously who fits this description, the description may remind you of a friend, or you might have seen someone in a movie or read about someone in a book who fits the description. Even if there is no one who readily jumps to mind that would fit the following description, try your best to imagine what it would be like to be in a dating relationship with someone so described.

Here is a description of a potential dating partner:

Think about meeting someone who seems interested in you as a romantic partner. You might've met this person through mutual friends, at a party, or in a class. Although you do not yet know this person all that well, you find yourself interested in him or her as well. You consider this person to be at least moderately attractive and it seems like the two of you have some common interests.

Now take a minute to think about how it would feel to be in a dating relationship with a partner like this. In the next packet, we will ask you some questions about your impressions of this potential dating partner.

## Appendix G

### Relationship Situations

In the following pages, you will be asked to make ratings of particular traits that may or may not be relevant to relationship partners. For each page, you will read a description of a hypothetical situational context in which relationship partners might find themselves. For each situational context, imagine that the other person is a hypothetical dating partner, NOT a real person that you may or may not be currently dating in your actual relationship. Please make all ratings with respect to the situational context on the page.

Feel free to refer back to this page at any time if you need to review the instructions.

## Appendix H

### Interaction Situations

In the following pages, you will be asked to make ratings of particular traits that may or may not be relevant to interaction partners. On each page, you will see the matrix that you used while interacting with your interaction partner. You will be rating how relevant it would be to know whether a NEW partner has that trait. Please make all ratings with respect to the matrix on the page.

Feel free to refer back to this page at any time if you need to review the instructions.

## REFERENCES

- Allport, G., & Odbert, H. S. (1936). Trait names: A psycho-lexical study. *Psychological Monographs, 47* (Whole No. 211).
- Allport, G. W. (1937). *Personality: A psychological interpretation*. New York: Henry Holt and Company.
- Ashton, M.C., & Lee, K. (2005). A defence of the lexical approach to the study of personality structure. *European Journal of Personality, 19*, 5-24.
- Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review, 11*, 150-166.
- Ashton, M. C., Lee, K., & de Vries, R. E. (2005). *Six factors in the Croatian personality lexicon*. Unpublished manuscript.
- Ashton, M. C., Lee, K., & Goldberg, L. R. (2004). A hierarchical analysis of 1,710 English personality-descriptive adjectives. *Journal of Personality and Social Psychology, 87*, 707-721.
- Ashton, M.C., Lee, K., Marcus, B., & De Vries, R. (2007). German lexical personality factors: Relations with the HEXACO model. *European Journal of Personality, 21*, 23-43.
- Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. E., Di Blas, L., et al. (2004). A six-factor structure of personality-descriptive adjectives: Solutions from psycholexical studies in seven languages. *Journal of Personality and Social Psychology, 86*, 356-366.
- Baron, R. M., & Boudreau, L. A. (1987). An ecological perspective on integrating personality and social psychology. *Journal of Personality and Social Psychology, 53*, 1222-1228.
- Becker, P. (1999). Beyond the Big Five. *Personality and Individual Differences, 26*, 511-530.
- Block, J. (1995). A contrarian view of the five-factor approach to personality description. *Psychological Bulletin, 117*, 187-215.
- Borgatta, E. F. (1964). The structure of personality characteristics. *Behavioral Science, 9*, 8-17.
- Caprara, G. V., & Perugini, M. (1994). Personality described by adjectives: Generalizability of the Big Five to the Italian lexical context. *European Journal of Personality, 8*, 357-369.

- Cattell, R. B. (1943). The description of personality: Basic traits resolved into clusters. *Journal of Abnormal and Social Psychology*, 38, 476-506.
- Cattell, R. B. (1945). The description of personality: Principles [sic] findings in a factor analysis. *American Journal of Psychology*, 58, 69-90.
- Cattell, R. B. (1947). Confirmation and clarification of primary personality factors. *Psychometrika*, 12, 197-220.
- Cattell, R. B. (1948). The primary personality factors in women compared with those in men. *British Journal of Psychology*, 1, 114-130.
- Costa, P. T., Jr., & McCrae, R. R. (1985). *The NEO Personality Inventory manual*. Odessa, FL: Psychological Assessment Resources.
- Costa, P. T., Jr., & McCrae, R. R. (1988). From catalog to classification: Murray's Needs and the five-factor model. *Journal of Personality and Social Psychology*, 55, 258-265.
- Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Odessa, FL: Psychological Assessment Resources.
- De Raad, B., & Barends, D. P. H. (2008). A new taxonomy of Dutch personality traits based on a comprehensive and unrestricted list of descriptors. *Journal of Personality and Social Psychology*, 94, 347-364.
- De Raad, B., Hendriks, A. A. J., & Hofstee, W. K. b. (1992). Towards a refined structure of personality traits. *European Journal of Personality*, 6, 301-319.
- De Raad, B., & Hofstee, W. K. B. (1993). A circumplex approach to the five factor model: A facet structure of trait adjectives supplemented by trait verbs. *Personality and Individual Differences*, 15, 493-505.
- Denissen, J., & Pense, L. (2008). Individual reaction norms underlying the five factor model of personality: First steps towards a theory-based conceptual framework. *Journal of Research in Personality*, 42, 1285-1302.
- DeVellis, R.F. (1991). *Scale development*. Newbury Park, NJ: Sage Publications
- Digman, J. M., & Inouye, J. (1986). Further specification of the five robust factors of personality. *Journal of Personality and Social Psychology*, 50, 116-123.
- Digman, J. M., & Takemoto-Chock, N. K. (1981). Factors in the natural language of personality: Re-analysis, comparison, and interpretation of six major studies. *Multivariate Behavioral Research*, 16, 149-170.

- Fiske, D. W. (1949). Consistency of the factorial structures of personality ratings from different sources. *Journal of Abnormal and Social Psychology*, 44, 329-344.
- Galton, F. (1884). Measurement of character. *Fortnightly Review*, 36, 179-185.
- Gibson, J. J. (1979). *The ecological approach to visual perception*. Boston: Houghton Mifflin.
- Goldberg, L. R. (1981a). Language and individual differences: The search for universals in personality lexicons. In L. Wheeler (Ed.), *Review of personality and social psychology* (Vol. 2, pp. 141-165). Beverly Hills, CA: Sage.
- Goldberg, L. R. (1982). From Ace to Zombie: Some explorations in the language of personality. In C. D. Spielberger & J. N. Butcher (Eds.), *Advances in personality assessment* (Vol. 1, pp. 203-234). Hillsdale, NJ: Erlbaum.
- Goldberg, L. R. (1990). An alternative "description of personality": The Big-Five factor structure. *Journal of Personality and Social Psychology*, 59, 1216-1229.
- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, 4, 26-42.
- Hartshorne, H., & May, M. A. (1928). *Studies in the nature of character* (Vol. 1, Studies in deceit). New York: Macmillan.
- Holmes, J. G. (2002). Interpersonal expectations as the building blocks of social cognition: An interdependence theory perspective. *Personal Relationships*, 9, 1-26.
- Holy Bible: New International Version*. (1984). Grand Rapids, MI: Zondervan Publishing House.
- Hrebickova, M. (1995). The structural model of personality based on the lexical analysis: A Czech replication study of the five-factor model based on a comprehensive taxonomy of personality-descriptive adjectives. *Institute of Psychology, Academy of Sciences of the Czech Republic*.
- John, O. P., Angleitner, A., & Ostendorf, F. (1988). The lexical approach to personality: A historical review of trait taxonomic research. *European Journal of Personality*, 2, 171-203.
- Kammrath, L.K., Mendoza-Denton, R., & Mischel, W. (2005). Incorporating If...Then...personality signatures in person perception: Beyond the person-situation dichotomy. *Journal of Personality and Social Psychology*. 88, 605-618.
- Kelley, H. H., Holmes, J. G., Kerr, N., Reis, H., Rusbult, C., & Van Lange, P. A. (2003). *An atlas of interpersonal situations*. Cambridge, UK: Cambridge University Press.

- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of interdependence*. New York: Wiley.
- Kenny, D.A., Kashy, D.A., & Cook, W.L. (2006). *Dyadic Data Analysis*. Guilford Press.
- Kirchner, J. L. (2005). *Situational affordances and interpersonal cognition*. Unpublished doctoral dissertation, University of North Carolina at Chapel Hill.
- Klages, L. (1926). *The Science of Character* (Translated 1932), Allen & Unwin, London.
- Lee, K., & Ashton, M. C. (2004). Psychometric properties of the HEXACO personality inventory. *Multivariate Behavioral Research*, 39, 329-358.
- Lee, K., & Ashton, M.C. (2006). Further assessment of the HEXACO personality inventory: Two new facet scales and an observer report form. *Psychological Assessment*. 18, 182-191.
- Lee, K., & Ashton, M. C. (2006). *Re-analysis of the structure of the Greek personality lexicon*. Unpublished manuscript.
- Lee, K., Ashton, M. C., & Shin, K.-H. (2005). Personality correlates of workplace anti-social behavior. *Applied Psychology: An International Review*, 54, 81-98.
- McCrae, R. R. (1990). Traits and trait names: How well is Openness represented in natural languages? *European Journal of Personality*, 4, 119-129.
- McCrae, R. R., & Costa, P. T., Jr. (1987). Validation of the five-factor model across instruments and observers. *Journal of Personality and Social Psychology*, 52, 81-90.
- McCrae, R. R., Costa, P. T., Jr., & Busch, C. M. (1986). Evaluating comprehensiveness in personality systems: The California Q-set and the five-factor model. *Journal of Personality*, 54, 430-446.
- McCrae, R. R., & Costa, P. T. Jr. (1997). Personality trait structure as a human universal. *American Psychologist*, 52, 509–516.
- McCrae, R. R., & John, O. P. (1992). An introduction to the five-factor model and its applications. *Journal of Personality*, 60, 175-215.
- Mischel, W. (1968). *Personality and assessment*. New York: Wiley.
- Mischel, W. (1973). Toward a cognitive social learning reconceptualization of personality. *Psychological Review*, 80, 253-283.
- Mischel, W. (2004). Toward an integrative science of the person. *Annual review of psychology*, 55, 1-22.

- Mischel, W., & Peake, P. K. (1982). Beyond Déjà Vu in the search for cross-situational consistency. *Psychological Review*, 730-755.
- Mischel, W., & Shoda, Y. (1994). Personality psychology has two goals: Must it be two fields? *Psychological Inquiry*, 5, 156-158.
- Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality reconceptualizing situations, dispositions, dynamic, and invariance in personality structure. *Psychological Review*, 102, 246-268.
- Mischel, W., Shoda, Y., & Rodriguez, M. L. (1989). Delay of gratification in children. *Science*, 244, 933-938.
- Mischel, W., Shoda, Y., & Mendoza-Denton, R. (2002). Situation-behavior profiles as a locus of consistency in personality. *Current directions in psychological science*, 2, 50-54.
- Newcomb, T. M. (1929). *The consistency of certain extravert-introvert behavior patterns in 51 problem boys*. New York: Bureau of Publications, Teachers College, Columbia University.
- Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structures in peer nomination personality ratings. *Journal of Abnormal and Social Psychology*, 63, 574-583.
- Norman, W. T. (1967). 2800 trait descriptors: Normative operating characteristics for a university population. University of Michigan, Department of Psychological Sciences.
- Paunonen, S. V., & Ashton, M. C. (2001). Big Five factors and facets and the prediction of behavior. *Journal of Personality and Social Psychology*, 81, 524-539.
- Reis, H.T. (2008). Reinvigorating the concept of the situation in social psychology. *Personality and Social Psychology Review*, 12, 311-329.
- Reis, H. T., & Collins, W. A. (2004). Relationships, human behavior and psychological science. *Current Directions in Psychological Science*, 13, 233-237.
- Reis, H. T., Collins, W. A., & Berscheid, E. (2000). The relationship context of human behavior and development. *Psychological Bulletin*, 126, 844-872.
- Rothbart, M. & Park, B. (1986). On the confirmability and disconfirmability of trait concepts. *Journal of Personality and Social Psychology*, 50, 131-142.
- Saucier, G. (1992). Benchmarks: Integrating affective and interpersonal circles with the Big-Five personality factors. *Journal of Personality and Social Psychology*, 62, 1025-1035.

- Saucier, G., & Goldberg, L. R. (1996). Evidence for the Big Five in analyses of familiar English personality adjectives. *European Journal of Personality, 10*, 61-77.
- Shoda, Y., Mischel, W., & Wright, J. C. (1994). Intraindividual stability in the origination and patterning of behavior: Incorporating psychological situations into the ideographic analysis of personality. *Journal of Personality and Social Psychology, 67*, 674-687.
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: W. W. Norton.
- Tesser, A. (1988). Toward a self-evaluation maintenance model of social behavior. In L. Berkowitz (Ed.), *Advances in experimental social psychology, Vol. 21: Social psychological studies of the self* (pp. 181-227). San Diego, CA: Academic Press.
- Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York: Wiley.
- Tupes, E. C., & Christal, R. E. (1961). Recurrent personality factors based on trait ratings. Technical Report ASD-TR-61-97.
- Tupes, R. C., & Christal, R. E. (1992). Recurrent personality factors based on trait ratings. *Journal of Personality, 66*, 225-251.
- Van Lange, P.A.M., Otten, W., De Bruin, E.M.N, & Joireman, J.A. (1997). Development of prosocial, individualistic, and competitive orientations: Theory and preliminary evidence. *Journal of Personality and Social Psychology, 73*, 733-746.
- Wasti, A., Lee, K., Ashton, M.C., & Somer, O. (2007). The Turkish personality lexicon and the HEXACO model of personality. *Journal of Cross-Cultural Psychology*.
- Wildschut, T., Pinter, B., Vevea, J.L., Insko, C.A., & Schopler, J. (2003). Beyond the group mind: a quantitative review of the interindividual-intergroup discontinuity effect. *Psychological Bulletin, 129*, 698-722.
- Wright, J. C., & Mischel, W. (1987). A conditional approach to dispositional constructs: The local predictability of social behavior. *Journal of Personality and Social Psychology, 53*, 1159-1177.
- Wright, J. c., & Mischel, W. (1988). Conditional hedges and the intuitive psychology of traits. *Journal of Personality and Social Psychology, 55*, 454-469.