Running Head: NEED FOR COGNITIVE CLOSURE AND VALUES

A need basis for values: Associations between the need for cognitive closure and value

priorities

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Abstract

Values are viewed as partly based on needs, but little research has been devoted to testing this relationship. The need to attain or avoid cognitive closure may be an important cognitive-motivational factor underlying the endorsement and pursuit of particular values. The present research provided an empirical test of the relations between individual differences in the need for cognitive closure (NFCC) and Schwartz's ten values. One hundred men and women from a southeastern British university completed measures of NFCC and basic values. Consistent with hypotheses, the results indicated that NFCC was positively associated with valuing Security, Conformity, and Tradition and negatively associated with valuing Stimulation and Self-Direction. In addition, NFCC was unrelated to valuing Hedonism, Power, Universalism, and Benevolence, but negatively related to valuing Achievement. Consistent with theories of epistemic closure, this research supports the idea that individual differences in NFCC give rise to values which match and satisfy individual needs to attain or avoid cognitive closure.

Keywords: need for cognitive closure, values

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1. Introduction

Values convey what is important to us in our lives. Values are defined as relatively stable, broad goals that guide people's perceptions, attitudes, and behaviors across contexts, cultures, and time (e.g., Rokeach, 1973; Schwartz, 1992). Considerable empirical research has demonstrated the important consequences of values (see, Bardi, Calogero, & Mullen, 2008; Gandal, Roccas, Sagiv, & Wrzesniewski, 2005; Schwartz & Bardi, 2001). Values are believed to be based on multiple antecedents including socialization, life experiences, personality traits, and, of particular interest here, needs (e.g., Rokeach, 1973; Schwartz, 1992); however, there is little research testing the potential links between needs and values (e.g., Bilsky & Schwartz, 1994; 2008; Ryan, 1995). This paper begins to address this gap by examining one of these links: the relationship between individual differences in need for cognitive closure and values.

1.1. Values

One of the most prominent value conceptualizations today is the Schwartz Value Theory (Schwartz, 1992), which has been extensively tested and validated worldwide (e.g., Schwartz, 2005). According to this theory, there are ten broad, cross-culturally recognized values which are based on the particular motivational goal that underlies each value (see Table 1). The ten values are interrelated to one another, creating a quasi-circumplex (a circle without specified gradients), such that each value is positively correlated with adjacent values in the circle, and each value is negatively correlated with opposite values in the circle (see Figure 1). The theoretical basis for these relations is that adjacent values in the circle can be easily pursued with the same actions whereas opposite values in the circle are often impossible to pursue with the same actions. For example, by following a specific tradition one can fulfill both Tradition values and Conformity values. Yet, by the same action one is likely to violate values of Stimulation and Self-direction. As a result, most people who tend

to endorse a particular value tend to also endorse adjacent values and to not endorse opposite values in the circle. In addition, the circle of values can be divided into two bipolar dimensions, each one comprised of two higher order types of values. The first dimension contrasts the motivation to preserve things as they are (*Conservation*, comprised of Tradition, Conformity, and Security) with openness to new ideas and experiences (*Openness to Change*, comprised of Self-Direction, Stimulation, and sometimes Hedonism). The second dimension contrasts the motivation to pursue selfish interests (*Self-Enhancement*, comprised of Power, Achievement, and sometimes Hedonism) with the pursuit of pro-social interests (*Self-Transcendence*, comprised of Benevolence and Universalism).

Value theorists have adopted a view of values "as the criteria people use to select and justify actions and to evaluate people (including the self) and events" (Schwartz, 1992, p.1). As criteria for selection and evaluation, values guide many social cognitive and behavioral tasks. Thus, it is plausible that values serve more deep-rooted epistemic (i.e., knowledge acquisition) needs, such as the need for cognitive closure (i.e., to attain closure or to avoid closure), reflecting the way people select and process social information more broadly (e.g., Saroglou & Dupuis, 2006; Thorisdottir, Jost, Liviatan, & Shrout, 2007). We propose that individual differences in the need for cognitive closure may be associated with the adoption of particular values that afford the attainment or avoidance of cognitive closure.

1.2. Need for Cognitive Closure

In Kruglanski's lay epistemic theory (1989, 2006), the need for cognitive closure (NFCC) is conceptualized as a cognitive-motivational factor that underlies how laypersons approach and form their knowledge about the social world. NFCC varies along a continuum with one end representing a need to attain cognitive closure and the other end representing a need to avoid cognitive closure. NFCC affects the way people interpret and respond to their social environments (e.g., Jost & Hunyady, 2005; Kruglanski & Webster, 1996). People at

the high end of the NFCC continuum can be characterized by a preference for structure, predictability, quick decision-making, rigidity of thought, and a low tolerance for ambiguity (Kruglanski & Webster, 1996). People at the low end of the NFCC continuum can be characterized by a preference for variety, uncertainty, slow decision-making, flexibility of thought, and a high tolerance for ambiguity.

Although NFCC is conceptualized as a unidimensional construct, it may manifest itself in any one of five ways (e.g., Mannetti, Pierro, Kruglanski, Taris, & Bezinovic, 2002; Roets & Van Hiel, 2007): *Preference for order* refers to the need to maintain order in one's life and avoid disorder. *Preference for predictability* refers to the need to have consistency across circumstances and avoid change. *Discomfort with ambiguity* refers to the need to have clarity in one's life and avoid confusion. *Closed-mindedness* refers to the need to secure knowledge and avoid challenges to knowledge. *Decisiveness* refers to the need to decide quickly and avoid indecision. Together, these five facets have been shown to comprise the primary cognitive-motivational forces underlying NFCC.

Similar to values, NFCC has been associated with a variety of important social psychological phenomena, including person perception (Ford & Kruglanski, 1995), intragroup processes (Pierro, Mannetti, De Grada, Livi, & Kruglanski, 2003), and intergroup processes (Federico, Golec, & Dial, 2005) in a wide variety of cultures (e.g., Kossowska, Van Hiel, Chun, & Kruglanski, 2002; Mannetti et al., 2002; Moneta & Yip, 2004), indicating the global utility of this construct. It is important to highlight that a non-specific NFCC is considered to be free of ideological content (Kruglanski, 1989). That is, even though NFCC has been associated with a variety of value-laden phenomena, the underlying motivation to prefer or eschew closure is based on epistemic needs that are non-directional and not ideologically driven. Thus, independent of the content of that information, we propose that

broader cognitive-motivational needs underlying any type of social information seeking may be associated with the endorsement of different types of personal values.

1.3. Hypothesis Derivation

NFCC appears to map directly onto the value dimension of Conservation vs. Openness to Change. The motivation to attain cognitive closure would appear to be best satisfied by Conservation values (Tradition, Conformity, and Security), which represent the goals of maintaining the status quo and preserving certainty in relationships with close others, institutions, and traditions. Thus, Conservation values should be positively correlated with NFCC. This reasoning is consistent with prior research demonstrating positive associations between NFCC and preferences for conformity and consensus-seeking (e.g., Fu et al., 2007; Kruglanski, Webster, & Klem, 1993), adherence to conservative ideologies (e.g., Chirumbolo & Leone, 2008; Kossowska & Van Hiel, 2003), and support for national and personal security (e.g., Federico et al., 2005; Eiser & Cole, 2002). Therefore, we predict that NFCC will be positively correlated with valuing Tradition, Conformity, and Security.

The motivation to avoid cognitive closure would appear to be best satisfied by Openness to Change values (mainly Self-Direction and Stimulation), which represent the goals of variety and novelty, and actively exploring one's social environment in unpredictable and uncertain directions. Thus, Openness to Change values should be negatively correlated with NFCC. This reasoning is consistent with prior research linking low NFCC with greater creativity and novel thinking (e.g., Chirumbolo, Livi, Mannetti, Pierro, & Kruglanski, 2004; Ip, Chen, & Chiu, 2006), greater engagement in unstructured and open-ended (vs. structured and predictable) leisure activities (Vermeir & Geuens, 2006), being extraverted and more open to experience (Stalder, 2007), greater comfort with changing the status quo (Mannetti, Pierro, & Kruglanski, 2007), and better coping with organizational

change (Kruglanski, Pierro, Higgins, & Capozza, 2007). Therefore, we predict that NFCC will be negatively correlated with valuing Self-Direction and Stimulation.

The values of Hedonism, Achievement, Power, Benevolence, and Universalism were not expected to be related to NFCC. We did not derive specific hypotheses for the five dimensions of NFCC, but these relations were examined on an exploratory basis to potentially highlight the more specific aspects of NFCC associated with the endorsement of particular values. In addition, the pattern of relations between NFCC and values was also tested when controlling for conservative ideology and socially desirable responding to rule out potential confounding effects.

2. Method

2.1. Participants and Procedure

The sample consisted of 100 participants (34 men and 66 women) from a south eastern British university recruited through on-line advertisements via a university-based student website to participate in a psychology study. The majority of the sample self-identified as White (n=56), with the remaining participants self-identifying as British (n=20), African (n=9), Asian (n=6), Other (n=5), or European (n=4). Mean age of participants was 23.37 years (SD = 6.35), ranging from 18 to 49 years. Participants were told that they were participating in a study that explored different social motives. The measures of interest were completed in the order described below. Due to the uneven gender distribution and wide age range, gender and age were also entered as control variables. All participants received £5 for participation.

2.2. Measures

2.2.1. Need for Cognitive Closure Questionnaire

NFCC was measured with the recently revised version of Webster and Kruglanski's (1994) *Need for Cognitive Closure Questionnaire* (Roets & Van Hiel, 2007). This new scale

was developed in response to the considerable debate about the factor structure of the original questionnaire, especially the construct validity of the Decisiveness subscale (Mannetti et al., 2002; Neuberg, Judice, & West, 1997; Roets, Van Hiel, & Cornelis, 2006). The revised scale is comprised of all original items except the Decisiveness items, which were replaced with new items. The revised scale was found to significantly improve the unidimensionality of the NFCC questionnaire (Roets & Van Hiel, 2007). In addition to summing all 41 items to produce a total NFCC score (α = .90), five subscale scores were calculated by summing the subscale items: Preference for Order and Structure (α = .85), Preference for Predictability (α = .81), Discomfort with Ambiguity (α = .65), Closed-Mindedness (α = .61), and Decisiveness (α = .84). Responses to all items are rated on a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*), with higher scores indicating a greater need to attain cognitive closure.

2.2.2. Schwartz Value Survey

Values were measured with the *Schwartz Value Survey* (Schwartz, 1992; Schwartz, 2005; Schwartz, Sagiv, & Boehnke, 2000). Of the 57 original value items, 45 items in the survey have demonstrated nearly equivalent meaning across 65 nations (Schwartz, 1992, 1994). These 45 were used to index the ten values (Table 1). Indexes are computed by averaging the importance ratings of the value items that represent each value. Cross-cultural studies have established adequate internal reliability (Schmitt, Schwartz, Steyer, & Schmitt, 1993; Schwartz, 2005), temporal stability and external validity (Schwartz, 2005; Schwartz & Bardi, 2001), and no confounding with social desirability (Schwartz, Verkasalo, Antonovsky, & Sagiv, 1997). Participants rate each value as a guiding principle in their own life on a 9-point scale from −1 (opposed to my principles) to 0 (not important) to 7 (of supreme importance). The asymmetry of the scale reflects the discriminations people naturally make when thinking about value importance, reflecting the desirable nature of values (Schwartz &

Bardi, 2001). However, participants rarely use the rating of -1, hence the vast majority of responses range from 0 to 7. Some people tend to rate all values as quite important whereas others tend to rate all values as moderately important, referred to as scale use tendency (Schwartz, 2005). To correct this bias, we followed Schwartz's recommendation to ipsatize the value scores by centering them on the personal means of value importance rating. Internal reliability in this study was adequate or marginally adequate (Nunnally, 1977), consistent with previous findings (see Schwartz, 2005): Power (α = .69), Achievement (α = .74), Hedonism (α = .69), Stimulation (α = .75), Self-Direction (α = .70), Universalism (α = .83), Benevolence (α = .78), Conformity (α = .74), Tradition (α = .70), and Security (α = .63).

2.2.3. Control Variables

Conservative ideology was measured with the *General System Justification Scale* (Jost & Kay, 2005; α = .79). Responses to the eight items are rated on a 9-point scale ranging from 1 (*strongly disagree*) to 9 (*strongly agree*), with higher scores indicating greater support for the status quo (α = .77). Socially desirable responding was measured with *Paulhus's Balanced Inventory of Desirable Responding* (Paulhus, 1991; α = .75-.86). Responses to the 20 items are rated on a 7-point scale ranging from 1 (*not true*) to 7 (*very true*), with higher scores indicating a greater tendency to engage in socially desirable responding (α = .78).

3. Results

3.1. Relations between NFCC and Schwartz's Ten Values

The gender of participants did not moderate any of the effects reported in this paper and thus all analyses were collapsed across this factor. As depicted in Figure 2, a series of zero-order correlations demonstrated that higher NFCC was positively correlated with valuing Security, $r(98) = .48, p < .001$, Conformity, $r(98) = .47, p < .001$, and Tradition, $r(98) = .21, p < .04$, whereas lower NFCC was negatively correlated with valuing Stimulation, $r(98) = -.42, p < .001$, and Self-Direction, $r(98) = -.47, p < .001$. In addition, NFCC was generally

unrelated to Power, $r(98) = .00$, $p = .96$, Hedonism, $r(98) = .06$, $p = .56$, Benevolence, $r(98) = -.09$, $p = .40$, and Universalism, $r(98) = -.15$, $p = .14$. Finally, inconsistent with predictions, Achievement was negatively correlated with NFCC, $r(98) = -.22$, $p < .04$.

Also depicted in Figure 2, a series of partial correlations between NFCC and values controlling for gender, age, conservative ideology, and socially desirable responding demonstrated that the size of the correlations remained largely unchanged when controlling for these four potential confounding variables; however, the correlation between NFCC and valuing Tradition was weakened to marginal significance ($p = .07$).

3.2. Relations between the NFCC subscales and Schwartz's Ten Values

A series of zero-order correlations revealed that the five dimensions of NFCC were differentially associated with Conservation values (see Table 2). All of the subscales were positively associated with valuing Conformity, suggesting that all of the dimensions underlying NFCC may be relevant to the pursuit of Conformity goals. In contrast, only Preference for Order and Preference for Predictability were positively associated with valuing Security, and only Closed-mindedness was positively associated with valuing Tradition.

A series of zero-order correlations also revealed that the five dimensions of NFCC were differentially associated with Openness to Change values (see Table 2). All of the subscales were negatively associated with valuing Self-Direction, with the exception of Discomfort with Ambiguity, suggesting that most of the dimensions underlying cognitive closure may be relevant to the pursuit of Self-Direction goals. In contrast, only Preference for Order, Preference for Structure, and Discomfort with Ambiguity were negatively associated with Stimulation. None of the subscales were associated with valuing Hedonism, Power, Benevolence, or Universalism. Finally, Preference for Order was negatively associated with valuing Achievement.

4. Discussion

We predicted that individual differences in NFCC would be differentially associated with values that are most likely to satisfy the need to attain or avoid closure. In particular, we predicted that high NFCC would be associated with the constellation of Conservation values whereas low NFCC would be associated with the constellation of Openness to Change values. These predictions were largely supported in the present study: High NFCC appears to motivate individuals to value and preserve stability, conformity, and maintenance of the status quo whereas low NFCC appears to motivate individuals to value and preserve novel experiences, creativity, and independent thought and action. This pattern of relations remained virtually unchanged when controlling for gender, age, conservative ideology, and socially desirable responding. The present research fits well within Kruglanski's lay epistemic theory (1989, 2006) and a motivated social cognition approach (Jost, Glaser, Kruglanski, & Sulloway, 2003). These theoretical frameworks highlight epistemic motives in the adoption of particular value systems in order to satisfy needs to attain or avoid cognitive closure. Thus, it would appear that individuals' NFCC fits best with those values that match and satisfy their underlying epistemic needs.

Additional notable findings were observed. All five subscales were related to valuing Conformity and Self-Direction (except Discomfort with Ambiguity), which supports the idea that Conformity and Self-Direction may represent the two contrasting values most closely linked to the contrasting ends of the NFCC continuum. Together, this pattern of findings suggests that valuing and pursuing Conformity goals may best satisfy individual needs to attain cognitive closure whereas valuing and pursuing Self-Direction goals may best satisfy individual needs to avoid cognitive closure. Indeed, seeking consensual validation and preferring conventional social norms have been identified as the key motive underlying NFCC (Fu et al., 2007).

In contrast, three of the five dimensions were related to Security, suggesting that the pursuit of Security goals may satisfy needs for more structure in people's lives, but not necessarily needs to reduce ambiguity or make quick decisions. Only Closed-mindedness was related to Tradition, suggesting that the pursuit of Tradition goals may satisfy needs to preserve one's own views. It is important to note that the correlation between NFCC and valuing Tradition was the weakest relationship among the Conservation values. If we consider that Tradition is one of the value types that is most laden with ideological content due to its strong relation to religiosity, then these weaker relations are not surprising, and, in fact, they are consistent with the idea that NFCC is not ideologically driven.

Only three of the five dimensions were related to Stimulation, suggesting that the pursuit of Stimulation goals may satisfy needs for less structure in people's lives, but not necessarily needs to be open-minded or to remain undecided, which may tap more into intellectual experience (closer to the meaning of Self-Direction values) and less into arousal (the essence of Stimulation values). Converging recent research suggests that low NFCC vs. high NFCC may be better able to attend to and process more variable social information (Kossowska, 2007). Future research might consider whether the motivation to avoid cognitive closure represents both the need and the ability to approach novel and challenging situations. None of the subscales were related to Hedonism, Power, Benevolence, or Universalism; however Preference for Order was negatively correlated with Achievement. Future research should examine this unexpected association in other, preferably non-student, samples.

Some limitations of the present research must be acknowledged. First, although the sample of students in the present research represented a variety of disciplines beyond the typical psychology student, it would be important to test the relations between NFCC and values within a larger, general population. Second, the present investigation used a cross-

sectional, correlational design. Although we have interpreted the causal pathway as NFCC leading to the adoption of particular values, the reverse causal pathway is also possible. For example, it may be that individuals who endorse Conformity values have higher NFCC because this approach to social information is consistent with preserving Conformity. However, prior research on the antecedents and consequences of NFCC suggest that this reverse causal pattern is less likely (see Kruglanski, 2006). At its most basic theoretical level, NFCC is conceptualized as an epistemic motive related to how and why people seek out *any* type of information in their social environments. Thus, this broad, underlying need to attain or avoid cognitive closure most likely emerges prior to the adoption of particular value and belief systems. However, experimental research is needed to test this line of reasoning and determine the causal order of the NFCC and value relations.

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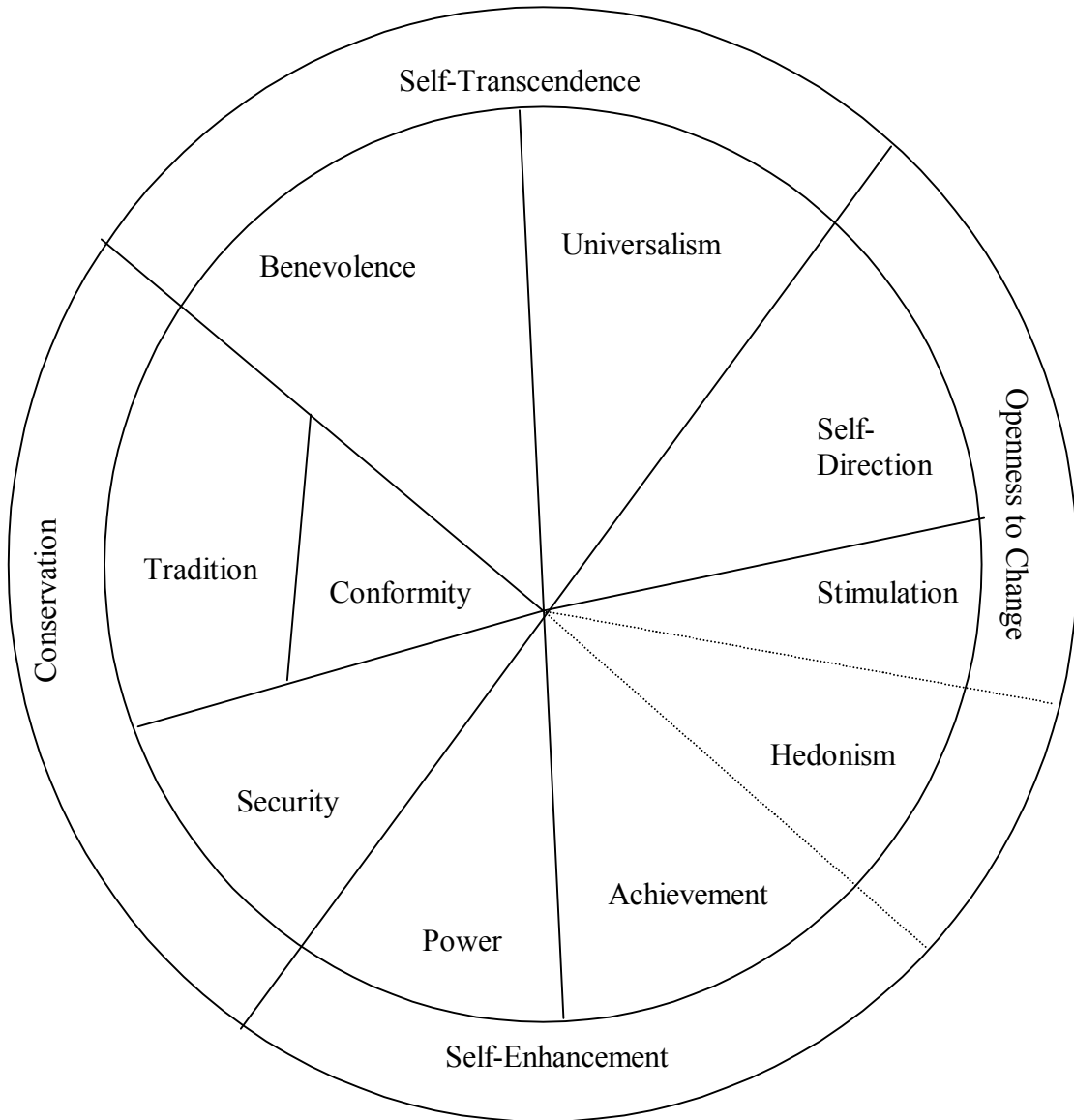
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Table 1

Definitions of the Ten Values and Items that Measure Them

Power: Social status and prestige, control or dominance over people and resources (social power, authority, wealth).

Achievement: Personal success through demonstrating competence according to social standards (successful, capable, ambitious, influential).

Hedonism: Pleasure and sensuous gratification for oneself (pleasure, enjoying life, self-indulgent).

Stimulation: Excitement, novelty, and challenge in life (daring, a varied life, an exciting life).

Self-Direction: Independent thought and action-choosing, creating, exploring (creativity, freedom, independent, curious, choosing own goals).

Universalism: Understanding, appreciation, tolerance and protection of the welfare of all people and of nature (broadminded, wisdom, social justice, equality, a world at peace, a world of beauty, unity with nature, protecting the environment)

Benevolence: Preservation and enhancement of the welfare of people with whom one is in frequent personal contact (helpful, honest, forgiving, loyal, responsible).

Tradition: Respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide the self. (humble, accepting my portion in life, devout, respect for tradition, moderate)

Conformity: Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms (politeness, obedient, self-discipline, honoring parents and elders).

Security: Safety, harmony and stability of society, of relationships, and of self (family security, national security, social order, clean, reciprocation of favors).
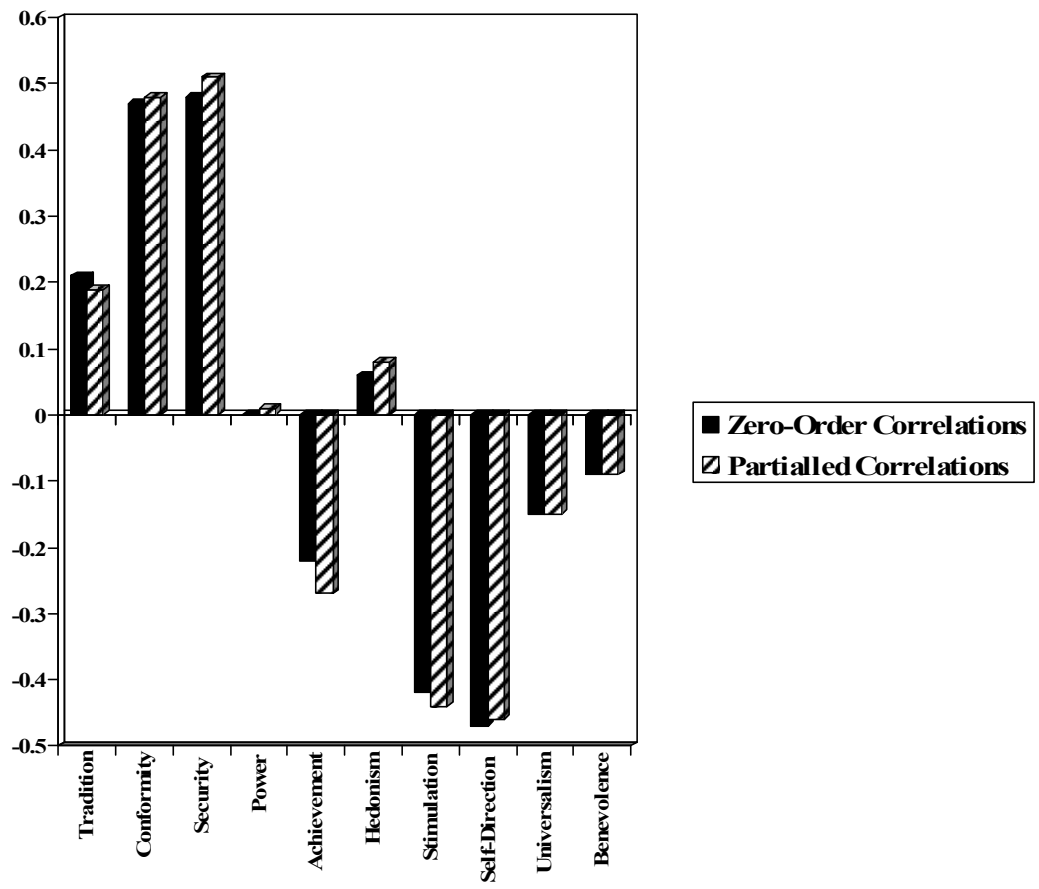
Figure Captions

Figure 1. The structure of relations of values in the Schwartz (1992) Value Theory.

Figure 2. Correlations between individual differences in the need for cognitive closure and

Schwartz's ten values.

(1)

(2)