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Validating an Objective Measure of Ego Development

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Validating an Objective Measure of Ego Development

A Thesis

Presented to

The Faculty of the Department of Psychology

The College of William and Mary in Virginia

In Partial Fulfillment

Of the Requirements for the Degree of

Master of Arts

by

Rebecca M. Plesko

1997

APPROVAL SHEET

This thesis is submitted in partial fulfillment of
the requirements for the degree of

Master of Arts




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ABSTRACT

Loevinger's (1976) theory of ego development offers a broader definition and more extensively researched projective measure than past and present ego theories (Hauser & Safyer, 1995). Despite these contributions, the 36 item projective test used to measure ego development has limitations in reliability, scoring, and time expenditure (Loevinger, 1993). The present study used confirmatory factor analyses to compare a forced choice test of ego development to the traditional test with a confirmatory factor analysis to determine whether they measured the same construct. The estimated correlation of .62 between the two measures partially supported this hypothesis. Post hoc analyses of difference scores demonstrated the objective tests is less valid for people with lower projective ego levels because they had greater increases on the objective test than people with higher ego development. Correlations between both ego development tests and the following personality measures, autonomy, impulsivity, need for cognition, and social desirability, were calculated to test convergent validity and only the correlation between need for cognition and the forced choice test was significant. Overall, the results suggest the tests measure similar but not identical constructs. The limiting influences of verbal fluency, a restricted range of ego levels, and the forced choice format in general are discussed. Future research on the objective test as an indicator of potential ego development, on test-retest reliability, and on the stability of the ego is warranted.

Validating an Objective Measure of Ego Development

Introduction

The ego was first defined by psychoanalytic psychologists, and traces of modern ego theory are found in theories of moral development, cognitive development, socialization, and interpersonal relations (Loevinger, 1993a). As a result, the ego is a construct that has been defined and measured in many ways, both historically and currently.

Freud established the psychoanalytic school of thought that separated the self into the id, the ego, and the superego (Hauser & Safyer, 1995). He provided early definitions of the ego and explored the basic motivating forces that drove behavior. His earlier descriptions stated the ego prevented painful memories from entering awareness. Only in his later works did Freud discuss ego development directly, and then he referred more to its initial development than to a developmental continuum. He outlined its position in one's personality, and his most recent conception was that the ego was a central structure for coping with anxiety (Freud, 1932). Anna Freud (1936) broadened the definition of the ego by introducing the concept of ego processes or defenses such as denial and intellectualism. Her defense mechanism theories brought attention to the influence of the ego on behavior and to how ego functions differ when social environments change.

At this point ego psychology diversified. Some theorists such as Nunberg (1948) and H.S. Sullivan (1953) focused on wider definitions of the ego and debated its driving force, whereas others such as Piaget (1932) considered the development of personality in general or the evolution of the self. Adler was in the first group; he broke from Freud to redefine the ego. He named it the unity of personality, or schema of life, and stated the ego can be motivated by self-realization as opposed to primitive drives alone. He acknowledged the ego has many functions, such as the synthesis of information, but its primary purpose was spontaneous striving or directing one's life purpose. Adler believed everyone developed this purpose by age 4 or 5, and for normal people it involved a desire for the good of people in general.

Nunberg (1948) was also a powerful influence on contemporary ego psychology. He discussed the "synthetic function of the ego" and characterized it as an active agent that integrated cognitions and emotions. The ego performed these functions because it related to both external reality and to a person's unconscious world. Hartmann (1939) also had a wider conception of the ego. He believed it had the innate capacities of perception, memory, and motility, and that these capabilities develop independently of specific drives. These capabilities allowed people to instigate

change within themselves and their environment.

Alternatively, H. S. Sullivan (1953) defined the ego in relation to conflict or anxiety. Sullivan stated its purpose is to both minimize anxiety and search for coherent meaning in one's experience.

While these different domains within ego psychology continued to expand, theorists became increasingly specific in defining the ego, ego processes, and ego development. Measurement techniques also diversified and it became increasingly difficult to compare across studies. Kohlberg assessed moral development by analyzing people's comments on stories about punishment, obligation, and the value of life. This technique was criticized as difficult because raters required lengthy supervision and training. The technique was also called unreliable because the procedure varied; people were given different numbers of stories, and the scoring procedure was changed frequently (Loevinger, 1976).

Some researchers used the Thematic Apperception Test (TAT) to assess ego functioning and development. Isaac (1956) discussed personality issues related to ego development in terms of interpersonal relatability or the capacity for interpersonal relations and outlined six developmental levels of his construct. He scored the Thematic Apperception Test (TAT) and assigned individuals to the level of the highest response. Peck and Havighurst

(1960) also used the TAT, but included it in a battery of measures (interviews, sentence completion tests) of the motivational patterns of delinquent adolescents. Peck and Havighurst defined the ego in terms of motivation concepts, and assigned levels with global evaluations made by multidisciplinary teams based on the test battery.

There are three primary areas of research in the current ego psychology literature, Bellak and colleagues' research on ego processes (Bellak, Hurvich, & Gediman, 1973), Block and Block's (1980) concepts of ego control and ego resiliency, and Loevinger's (1976) theory of ego development. Each has a different focus, but all build on past theory and measurement techniques. Both Bellak et al. (1973) and Block and Block (1980) discuss the functions or processes of the ego. Bellak's research defines the primary ego function as task solving. His research also used projective tests such as the Rorschach, TAT, and inventories, but it has been criticized for lack of reliability (Hauser & Safyer, 1995).

The Blocks' (1980) research took a more comprehensive and naturalistic approach to assessing what they believe to be the two core ego processes, ego control and ego resiliency. They define ego control as "the threshold or operating characteristic of an individual with regard to expression or containment of impulses, desires, and

feelings" and ego resiliency as, "the dynamic capacity of an individual to modify his/her modal level of ego control, in either direction, as a function of the demand characteristics of the environmental context" (Block & Block, 1980, 43). Each of the characteristics was measured in a variety of ways (observer indices, Q sort tasks, and task performance) over time. Their research examined the influences of interpersonal behavior, emotional experience, moral development, and environmental factors on ego control and resiliency. They initially examined these relationships by assessing over 100 children at the ages of 3, 4, 5, 7, 11, 14, 18, and 23 (Gjerde, Block, & Block, 1986; Hauser & Safyer, 1995). Their findings concerning the concepts of ego control and ego resiliency suggest the concepts are relatively stable, although more for boys than girls, and they relate to concepts such as delay of gratification and egocentricism (Funder & Block, 1989; Gjerde, Block, & Block, 1986).

Jane Loevinger's (1976) theory is the only modern ego theory that focuses on ego development. It is unique because it provides a more comprehensive definition (including all major dimensions of development) and a operational measure of the construct. She defined the ego as a master trait encompassing qualitative differences in impulse control, cognitive complexity, emotional experience,

and morality (Loevinger, 1976). As one's ego matures, an increasingly complex framework of meaning is imposed on personal experience. As such, each increasing level brings differences in individuals' comprehension of concepts such as external/internal causality, conscious preoccupations, delay of gratification, inner conflict, and social guidelines (Hy & Loevinger, 1996). Her conception is that the ego is relatively stable, but has periods of disequilibrium during which developmental, qualitative advances occur.

Her theory and extensively normed and validated measure has contributed much to psychology (Hauser, 1976, 1993); however, the method used to measure ego development has limitations. People finish 36 incomplete sentence stems such as, "What gets me into trouble is..." or "A wife should...", and these free format responses are then classified into one of nine ego development levels by raters (Hy & Loevinger, 1996; Loevinger, Wessler, & Redmore, 1970).

Loevinger believes that the projective nature of the sentence completion test (SCT) allows individuals to provide more personally relevant information, but she has also admitted that "Although the SCT scoring manual goes a long way toward objectifying scoring, it cannot totally succeed. From a practical point of view, time and effort are needed to master the system...Objective tests will always have an

advantage in terms of (potential) reliability" (Loevinger, 1993a, p.12). The present study evaluated an alternative, objective measure of ego development. The new forced choice format built on the strengths of the existing theory in an attempt to simplify scoring procedures, increase reliability, shorten response time, and allow for repeated assessment.

Loevinger's (1976) ego development theory originated with work on the Family Problems Scale in the late 1950s. The research concerned family problems faced by women throughout the life cycle and how women's personalities were related to how they dealt with these problems. Factor analyses of the Family Problems Scale produced a cluster of authoritative and permissive items, prompting researchers to focus on the Authoritarian Family Ideology (AFI) construct.

With continued study and clinical application in settings such as health clinics, it became apparent that not all women could be adequately described by the AFI trait. Some women were unable to discuss family life in any type of abstract manner, remaining hostile and impulsive. These women did not fall along the authoritarian or permissive continuum at all, remaining too egocentric and concrete to think of their children in such terms. Alternatively, women who were older, more educated, and had more childrearing experience were clearly more permissive and authoritative

(Loevinger, 1976; 1993). This suggested that the AFI trait was not a unidimensional construct. Studies with diverse populations of women (Loevinger, 1993a) confirmed this hypothesis, and the AFI was reconceptualized as a milestone or stage variable, ego development (Loevinger, 1976).

Loevinger and her colleagues (1976) used Sullivan, Grant, and Grant's (1957) theory of interpersonal integration to guide and develop the original ego development stage definitions and characteristics. The specific levels of integration such as integration of nonself differences (early appreciation of others' characteristics), of rules (understanding what governs relationships between people), of conflict and response (understanding the psychological force of others), and of continuity (recognizing stable patterns of interaction among people) were used to model the original ego development levels - impulsive, conformist, conscientious, and autonomous (Sullivan et al., 1957). As stated previously, people at each level are qualitatively different on dimensions such as impulse control, conformity, cognitive complexity, and self-awareness (Hy & Loevinger, 1996).

Comparisons are frequently made between Loevinger's ego development theory and Kohlberg's (1964) moral development, Piaget's (1932) theory, conceptual systems development (Harvey, Hunt & Schroder, 1961), and other theories such as

Harry Stack Sullivan's theory of interpersonal psychiatry (1953). Loevinger (1976, 1993b) acknowledged the similarities between these theories and hers, but also discussed the differences. First, Loevinger's ego development is distinct because it encompasses all aspects of development, simultaneously considering emotional, cognitive, moral, and social areas, whereas most other developmental theorists focus on a single area such as cognition or morality (Loevinger, 1993b). Second, Loevinger assumes the ego functions as a unitary system, whereas earlier ego psychologists described numerous ego processes or at least empirically separate subdomains within a unitary ego (Snarey, Kohlberg, & Noam, 1983).

She also specifically separated her definition of the ego from traditional psychoanalytic theory, stating "there are at least four meanings given to ego development in psychoanalysis, of which only one, Erikson's chronicle of psychosocial development, is at all compatible" with her own (Loevinger, 1976, 4). Before Erikson, ego development referred only to its first appearance, typically in young children (Snarey et al., 1983). However, Loevinger's developmental continuum of ego functioning is different even from Erikson because the levels are independent from age. Its most "distinctive feature" is, "that ego development is a major dimension of individual differences at any age

cohort, at least beyond the youngest stage" (Loevinger, 1976, 5).

The procedures for assigning people a particular ego development level also distinguished Loevinger's theory from other developmental theories. Assigning an ego level to each response creates a "stage scatter" for every participant. The ogive rules used to place people into one ego development category weigh extreme responses (2 or 8) heavier than those in the middle (conformist), but still the rules are based on the distribution of response scores. This is a unique attribute of the theory - other researchers such as Isaac simply sum responses or categorize a person based on their HIGHEST response (Loevinger, 1976, 1993b; Sullivan et al., 1957). Finally, the projective test format and scoring manual were rigorously tested and revised since its first introduction such that some now credit it as, "one of the most sophisticated tools that has ever been built for the assessment of personality" (Blasi, 1993, p.17).

In the initial development of Loevinger's measure, people completed 36 sentence stems. These stems were chosen to elicit different responses from individuals, stems such as "Raising a family..." and "The thing I like about myself is...". As the scoring manual for the projective SCT was developed, the definition of the original four stages was clarified. Over the years, responses from both men and

women suggested that the four stages, impulsive, conformist, conscientious, and autonomous, were not enough, and the theory and scoring manual evolved to include the present nine levels of ego development (Hy & Loevinger, 1996; Loevinger, 1976, 1993a).

The initial stage of presocial (or symbiotic) is when an infant learns to differentiate self from nonself. This stage is primary and occurs too early to be measured. The impulsive level (E2) is characterized by a strong, demanding, and dependent need for others and a focus on concrete behavioral causation. At the self-protective level (E3), a person begins to understand the concept of blame but projects it on others. People are motivated to follow rules out of a fear of being caught.

Conformists (E4) adopt conventional beliefs and values. They describe their emotions and ideas with stereotypes and clichés and are insensitive to the individual experience or perspective of others. At the self-aware level (E5), people begin to weigh multiple choices or alternatives within specific contexts. They understand that life experiences are not just "good or bad" but can be evaluated individually. A person has reached the conscientious level (E6) when he or she develops a sense of responsibility for self and others and can formulate long-term self-evaluated goals. At this level, rules are guided by internal

standards. A heightened sense of individuality and emotional dependence characterizes the next ego level, individualistic (E7). The more judgmental moralism of the conscientious stage is replaced by a feeling of inner conflict as people develop a tolerance for ambiguity, paradox, and contradiction.

Autonomous individuals (E8) view all reality as complex, transcend polarities, recognize other people's autonomy, and acknowledge the necessity for emotional interdependence. Conflict is accepted as part of the human condition and there is an understanding that people need to make their own mistakes and decisions. The highest ego development level is integrated (E9), a rare stage because it requires a person to overcome all internal and external conflict (Hauser, 1976; Hy & Loevinger, 1996; Loevinger, 1976).

To appreciate how the SCT allows individuals at each of these levels to express differentiating characteristics, it is helpful to review typical responses. Examples to the stem, "A good mother..." across ego development levels include (Loevinger et al., 1970):

impulsive(2): "buys mostly everything you want" or "is always good"

self-protective(3): "is always keeping an eye on her

- children" or "is a mother who doesn't make eyes at other happily married men"
- conformist(4): "always puts her family first" or "is a loving person"
- self-aware(5): "is consistent, patient, and above all, loving" or "tries to always know what's best for her children"
- conscientious(6): "is one who loves her children but does not spoil them" or "is one who lets her children grow up"
- individualistic(7): "both disciplines and spoils her children and raises them up with a good sense of morals and values" or "is patient and able to put herself in her child's position"
- autonomous(8): "loves her children but gives them freedom to be independent -which isn't always easy" or "is not always perfect and is better if she does not pretend to be"
- integrated(9): "is kind, consistent, tender, sensitive, and always aware a child is the master of its own soul" or "let's go, loves without demanding conformity to her own ideals and standards and helps guide if

possible"

Comprehensive reviews of the reliability and validity of the ego development measure can be found in Hauser (1976, 1993) and Loevinger (1979). With respect to reliability, split half and internal consistency of the measure have been consistently found to be high (.85 to .90 and .80 to .89) (Hauser, 1976; Hy & Loevinger, 1996; Loevinger, 1979; Redmore & Waldman, 1975). In contrast, test- retest reliability was low for short term intervals of 1 to 3 weeks intervals. Redmore and Waldman (1975) administered the test twice to ninth graders and a college age group with a one week gap and reported an average correlation of .79. They also found in only one week scores significantly decreased for the ninth graders at the second assessment and that this occurred in a collegiate sample to a lesser degree.

Redmore and Waldman (1975) speculated that motivation at the time of re-testing can influence the effort and creativity expended on answering the same sentence stems. The high school group was not given a rationale for retaking the test and answers made by the same individual were generally shorter and less elaborate, lowering the ego level ratings. For example one participant's responses to "What gets me into trouble is..." changed from "my mischievousness" (scored E6) to "my big mouth" (scored E4). The college group was told the retest was for reliability of

the measure and percent agreement between their tests was much higher.

Decreases of 1-2 ego levels have also been found in studies attempting to increase ego development status with short educational interventions (Mosher & Sprinthall, 1971). White (1985) found that individuals who were self-aware (E5 or below) stayed the same or increased ego levels after an intervention, whereas those who were conscientious (E6 or above) stayed the same or decreased. This finding suggested higher ego levels are particularly sensitive to poor motivational sets because the smallest elaboration can increase the rating of an item, but without a control group it is impossible to determine if this was simply regression to the mean (Loevinger, 1993; White, 1985). Another study comparing three different motivational response sets (role-playing, best effort, and a control group) found that increases of .5 ego levels can occur on a one week retest, confirming the influence of motivation on responses (Blumentritt, Novy, Gaa, & Liberman, 1996).

The developmental sequence of stages has been validated in adolescence and through the late college years when ego development is presumed to stabilize (Cohn, 1991; Hauser, Borman, Powers, Jacobson, & Noam, 1990; Loevinger, Cohn, Bonneville, Redmore, Streich & Sargent, 1985; Redmore & Loevinger, 1978). With respect to convergent validity,

positive correlations have been found with Kohlberg's (1964) morality test (ranging from .34 to .65). Ego development has also been correlated with a variety of behavioral measures. Adolescent delinquency was found to be significantly higher at low stages (Frank & Quinlan, 1976) and a curvilinear relationship between ego development and conformity was supported by significant quadratic trends of both self-report conformity and school demerits to ego levels (Hoppe & Loevinger, 1977).

A wide variety of personality traits have been compared to ego development, but relationships tend to be moderate to low given the difficulty inherent in comparing stage and trait theories. Modest support for construct validity has been found by correlating numerous traits and ego development (r_s between .21 and .31). As one's ego development matures, there are corresponding increases in empathy (Carlozzi, Gaa, & Liberman, 1983), psychosocial maturity, creativity (Valliant & McCullough, 1987), nurturance, and responsibility, (White, 1985). Alternatively, lower ego development has been associated with impulsivity (r_s between -.23 and -.31) (Starrett, 1983) and aggression (Levit, 1993). Comparing ego development to Q sort scores, tolerance and social perception (statements such as "is socially perceptive of a wide range of interpersonal cues" or "Is tolerant of others' ideas") were

associated with mature ego levels. Impulsivity and exploitation (statements such as "Impulsive; when he doesn't get what he wants, he may be self-destructive in an impulsive way" or "Exploitative; sees people as sources of supply; 'good' to him seems to mean 'good to me'") were associated with lower ego levels (Rozsnafsky, 1981).

Westernberg and Block (1993) attempted to resolve the stage to trait difficulties by creating "developmentally homogeneous personality scales". They recruited Loevinger and Cohn to assemble prototypes of items on the California Adult Q-Set that corresponded to each ego level description, and found positive linear relationships between ego development and ego resiliency, intellectualism, interpersonal integrity, moral soundness, and interpersonal closeness. The traits of conformity and compliance as measured by the Q-set were curvilinearly related to ego maturity, with highest correlations for people at conformist and conscientious ego levels. All of the relationships found supported the construct validity of ego development by corresponding to stage definitions (Westernberg & Block, 1993).

Although much research supports Loevinger's measure of ego development, there are numerous limitations. Criticism has been made about the test's projective nature, its scoring procedure, and even its necessity (Costa & McCrae,

1993; Novy et al., 1994). With respect to the test's projective format, there is a tradeoff between objective and projective. Ratings of projective responses will never be as reliable as objective scores, yet free format tests collect information specifically relevant to each person (Loevinger, 1993).

The time involved in rater training and scoring each protocol (20 minutes for experienced raters) can also be cumbersome when working with larger research populations or repeated measurement designs, and test administration averages 20 to 30 minutes (Hy & Loevinger, 1996). These factors prompted researchers to implement, validate, and norm a 12 item short form of the SCT (Browning, 1987; Holt, 1980). This research found the shorter form to be reliable and provided overall population norms for ego development, norms that were not previously available. However, the scoring manual for ego development (Hy & Loevinger, 1996; Loevinger et al., 1970) has been updated and now includes two short 18 item forms. Currently, the 18 item forms are more commonly used than the 12 item form.

Costa and McCrae (1993) have more theoretical objections to Loevinger's (1976) ego development theory. They disagree that there is one "master trait" and claim that the aspects of personality are better represented by the five personality traits of neuroticism, extroversion,

openness to experience, agreeableness, and conscientiousness, each of which may serve as a master trait (Costa & McCrae, 1993). However, Loevinger (1993b) states ego development cannot be equated to these five traits alone. Correlations have been found only between ego development maturity and openness to experience, demonstrating the ego development construct is different than these five traits (Loevinger, 1993b; McCrae & Costa, 1980). Loevinger (1993b) states McCrae and Costa's (1980) 5 personality traits fail to adequately differentiate between people who are at the conformist and conscientious levels - an important distinction for her because this is where the majority of the population falls.

The master trait status of ego development was also examined by Novy, Frankiewicz, Francis, Liberman, Overall, and Vincent (1994) with four alternative structural models. The best model found that ego development, impulse control, interpersonal style, conscious preoccupations, and cognitive style all loaded onto a higher second order factor, although the model was plagued by low internal consistency within the personality measures. The strong relationship between ego development and the second order factor led the authors to conclude, "ego development is a broad construct that has a significant role, though maybe not as dominant as that envisioned by Loevinger" (Novy et al., 1994, p.114). This

research balanced with the theoretical objections of Costa and McCrae (1993) suggest that the structure of the ego development construct and its projective measurement require future examination.

The present study attempted to overcome some of the limitations of Loevinger's projective measure. A forced choice objective test of ego development was created, and it was hypothesized the new test would measure the latent construct of ego development in the same manner as the projective measure. In other words, participants would choose a sentence stem that contained similar characteristics (concrete or abstract, behavioral, or emotional) as their own written projective response even when an exact match could not be found among the presented options. More specifically, it was hypothesized that when presented with nineteen different ways to finish each incomplete sentence, people would select responses from their own ego level.

Response options were selected for each ego level directly from examples in Hy and Loevinger's (1996) scoring manual, which in turn were compiled based on their prevalence in the larger population (Hy & Loevinger, 1996). In this way, the forced choice test constituted an extension of the averaging or general categories necessary for projective rating procedures. Scoring was simplified

because the ego level of each response was recorded by the computer, eliminating the need to rate each item response. Also, the automatic assignment of an ego level to participants' choices eliminated problems of inter-rater reliability.

Another advantage of the forced choice measure is shorter participant response time because they read and select a response rather than writing one out. Also, the specific 19 presented responses for each item change each time the program is run. This ensures the task will be engaging and requires the participant to pay attention each time it is administered, as opposed to the projective measure where participant motivation and ego development levels decrease on short interval retests.

Four personality measures, autonomy, impulsivity, need for cognition, and social desirability, were also included to evaluate the construct validity of the objective forced choice measure. The post conformist ego development levels (conscientious, autonomous, and integrated) are characterized by increases in cognitive complexity, a stronger sense of self, psychological mindedness, and the internalization of one's value system. These traits are reflected by the independence from authority and traditional social standards, openness, and liberal nature of high autonomous individuals and the "tendency to engage in and

enjoy effortful cognitive activities" of high need for cognition scores (Cacioppo & Petty, 1982; Heist & Younge, 1968; Hy & Loevinger, 1996). Based on these similarities, higher autonomy and need for cognition scores were expected to be associated with higher ego development

Impulsiveness was expected to be negatively related to ego development because by definition one's capacity to delay gratification increases with higher ego maturity (Hy & Loevinger, 1996; Loevinger, 1976; Starrett, 1983). Social desirability was expected to be curvilinearly related to ego development because following societal rules and compliance is the primary concern of those at the conformist and conscientious levels, a relationship found by Westernberg and Block (1993).

Method

Overview

The present study includes data from two separate research projects, one conducted in the fall of 1996 and one conducted in the spring of 1997. In both the fall and the spring, the projective ego development measure was included in a mass testing session at the beginning of the semester. In the fall, 4-5 weeks elapsed before the study began and students completed the forced choice measure. In the spring, the forced choice measure was completed approximately 3 weeks after the mass testing session. The

four personality measures, autonomy, impulsivity, need for cognition, and social desirability, were administered on the computer at the same time as the forced choice ego development measure, but only in the fall.

Participants

One hundred twenty four female and 65 male undergraduates participated in the fall and spring studies combined for a class requirement. Computer disk problems and lack of mass testing data (no projective measure of ego development) excluded some participants from the analyses. One hundred seventy three students (116 women and 57 men) were included in the final ego development analyses, and 79 students (44 women and 35 men) from the fall study were included in the analyses examining the relationships between ego development and the personality measures.

Measures

Projective measure of ego development

The traditional Sentence Completion Test, Form 81 (SCT; Hy & Loevinger, 1996) was administered to all participants in a preliminary group testing session (Appendix A). Hy and Loevinger (1996) (also Loevinger, personal communication, fall 1996) recommend selecting either the first or second half of the complete 36 item form as a short form, therefore only the first 18 items were included.

Forced choice measure of ego development.

The Micro Experimental Lab software program (MEL; Schneider, 1988) was used to create a forced choice sentence completion test. Participants read the same 18 incomplete sentence stems from the projective measure, but instead of writing out their own answer, they selected the response that best matched how they would complete each sentence stem from a set of nineteen response options.

More specifically, the program first presented screens containing welcome messages and general instructions to acclimate participants to using the computer. The next instructions were,

"Next you will be presented with a series of incomplete sentence stems. Each one will appear on the screen by itself. Read it carefully and think about how you would typically or characteristically finish it. Once you have formulated your response press the space bar, and nineteen alternative responses to the sentence will appear on the screen. Choose the response that BEST MATCHES YOUR OWN. Press the space bar when you are ready to begin."

Each sentence stem then appeared on the screen by itself, and after the participant pressed the space bar, nineteen response selections appeared on the screen.

The program randomly presented a preset number of responses characteristic of each ego level. For each item, there were 38 responses, four from levels E2 (impulsive) and E8 (autonomous) and six from each of the levels E3 to E7. Lists of items and all possible are in Appendix B. Each time the program was run, two responses from levels E2 and E8 and three responses from levels E3-E7 were randomly selected without replacement, making up the nineteen responses for a specific stem. This feature generated different response sets for each item and for each participant. Order of presentation of responses on the screen was also varied. The response distribution was weighted toward levels E3-E7 because this is where the majority of the population is classified (Holt, 1980). There were no responses representative of the highest level, E9 or integrated, as this level is rarely encountered (Loevinger, 1976, 1993a).

The response choices were taken verbatim from the scoring manual, which provided actual participant responses from previous research (Hy & Loevinger, 1996). Exceptions were made only to correct grammar, spelling, or to restate a response more concisely. Specific responses were chosen in an attempt to reflect the salient characteristics or typical responses made by individuals at each ego level. Hy and Loevinger (1996) identified popular responses categories in

the ego development manual with one or two asterisks, and these responses were used whenever possible. Popular was defined by Hy and Loevinger (1996) as including 2% or 5% of the responses of "one large, fairly heterogeneous sample" (Hy & Loevinger, 1996, p.85).

For each item in the manual, themes are identified that characterize all responses, and an attempt was made to select responses from each theme for every level. For example, the themes for the stem "What gets me into trouble....." are talking (found in E3-E6), behavior (found in E2-E6), traits (found in E4-E7), and relationships (found in E2-E7). For the conformist ego level (E4) the following responses were selected from each category: talking - "my big mouth", behavior - "not studying", traits - "my temper", and relationships - "being too nice". The program recorded specific responses chosen by participants including the ego level and its ordinal position on the computer screen.

Impulsiveness

Impulsiveness was measured in the fall only with the revised impulsiveness questionnaire (Eysenck, Pearson, Easting, & Allsop, 1985), traditionally administered within the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1978). The scale consists of 19 items such as "Do you buy things on impulse?" or "Do you often do things on the spur of the moment?" (see Appendix C) and validity studies

demonstrate it measures the extent to which a person acts on the spur of the moment without being aware of the risk involved (Eysenck, Easting, & Pearson, 1984).

Previous research has found that the impulsivity subscale had adequate internal reliability (alphas between .80 and .85) (Eysenck et al., 1985). In the present research, the scale had an alpha = .74.

Need for Cognition

The Need For Cognition Scale (Cacioppo & Petty, 1982) was also administered only in the fall. The 18 item short form (Cacioppo, Petty, & Kao, 1984) consists of statements such as, "I prefer my life to be filled with puzzles that I must solve" that are rated along a 5 point scale. The scale (Appendix D) measures individual differences in "people's tendency to engage in and enjoy effortful cognitive activity" (Cacioppo & Petty, 1982). Validity studies report people high in need for cognition actively acquire information about relevant stimulus events when problem solving (Berzonsky & Sullivan, 1992) and formulate complex attributions (Fletcher et al., 1986), and people low in need for cognition are more dogmatic (Cacioppo & Petty, 1982). Its reliability has also been found to be adequate in previous research (alphas ranging from .85 to .91 for 18 item form) (Cacioppo, Petty, Feinstein, & Jarvis, 1996), and the alpha in the present sample was .67.

Autonomy

The autonomy subscale from the Omnibus Personality Inventory (Heist & Yonge, 1968) consists of 43 items such as "One of the most important things children learn is when to disobey authorities" or "Unquestioning obedience is not a virtue" (see Appendix E). Participants answer true or false to the statements. The scale measures characteristics such as "liberal, nonauthoritarian thinking and a need for independence...high scorers are independent of authority as traditionally imposed through social institutions...and much less judgmental than low scorers" (Heist & Yonge, 1968, 4). This personality measure was only administered in the fall. Its internal consistency alpha for the present study was .74 compared to .82 and .88 in previous research (Heist & Yonge, 1968).

Social Desirability

Crowne & Marlowe's (1960) measure of social desirability was included in the fall study (see Appendix F). It consists of 19 items such as, "I have never intensely disliked someone" and "When I don't know something, I don't mind at all admitting it" answered true or false. The internal consistency of this scale was alpha = .72 compared to previous reports of .89 (Crowne & Marlowe, 1960). Validity research reported the Marlowe-Crowne scale correlates highly with the Edwards scale of social

desirability and the K (test-taking), L (lie) and F (validity and test taking attitude) scales of the MMPI (Crowne & Marlowe, 1960).

Procedure

In the fall, participants met in the computer lab where consent forms and instructions to the MEL computer program were distributed. Participants first completed the forced choice measure of ego development and then four personality measures, the need for cognition scale, the impulsivity scale, the autonomy scale, and the social desirability scale. The computer program displayed all instructions for the questionnaires. At the end of this session they were debriefed.

In the spring, participants participated in a 10 week study. The first session of the spring study was the same as in the fall. Participants met at the computer lab and received instructions to run the computer programs and an overview of the larger study. In the lab the first day they completed session one - the forced choice measure of ego development and then personality measures that were not part of the present study. These participants were debriefed at the end of the 10 weeks.

Results

Projective measure of ego development

Item responses to the projective measure were scored according to manual procedures. Two raters trained on exercises in Hy and Loevinger's (1996) scoring manual, scoring individual items and full protocols. They demonstrated further inter-rater reliability by scoring manual examples and comparing the ego development scores they derived to the correct answers in the manual, $r_s = .87$ and $.92$ and kappas = $.75$ and $.81$. Inter-rater reliability was established by matching scores between raters for the examples in the manual, $r = .89$ and kappa = $.77$, as well as by matching scores assigned to a subsection of 43 tests collected in the study, $r = .94$ and kappa = $.74$.

Overall ego development levels were calculated in two ways. Scores derived from the ogive algorithm of Hy and Loevinger (1996) to convert the eighteen item scores into one total protocol rating (TPR) were identified as ogive levels. The ogive algorithm weighs extreme responses heavier than the more common conformist (4), self-aware (5), and conscientious (6) responses (Loevinger, 1993). Sum levels are ego development levels calculated by the more straightforward summation rules which classify individuals based on item sum scores. Some analyses dictated using the sum of the 18 items, therefore the item sum itself was also

reported for the projective measure. The internal consistency of the projective ego development measure in the present study was $\alpha = .80$.

There was a normal distribution of projective ego development scores, using both the ogive levels and the sum levels. The ogive level distribution had a mean = 5.06, $sd = 1.10$, a range 2 to 8, and a median and mode of 5 (Figure 1). The sum level distribution was similar with $\underline{M} = 5.29$, $\underline{SD} = 1.11$, a range from 2 to 8, and a median and mode of 5. The item sums ranged from 57 to 116, $\underline{M} = 88.93$ and $\underline{SD} = 9.19$.

Forced choice measure of ego development

Ego development levels for the forced choice measure were calculated using the same procedure as that used for the projective measure. The eighteen items scores were translated into levels using the ogive rules (forced choice ogive level) and TPR summation rules (forced choice sum level). Items 6 and 10 were later dropped from the forced choice test based on low item to total correlations and low factor loadings. The sum of the remaining 16 items was used in many later analyses and is reported as the modified item sum. The internal consistency of the computerized version was .60, even after the two items were dropped.

The distribution of ego development levels based on the forced choice measure was negatively skewed. The mean for

the ogive level distribution was 6.51, the SD was 1.13, the range was 3 to 8, the median was 7, and the mode was 6. Figure 1 compares this distribution to the ego development distribution derived from the projective measure. The sum level distribution had a mean of 6.62, SD of 1.3, a range from 3 to 8, a median of 7, and a mode of 6. The item sum for the forced choice measure ranged from 73 to 130, M = 101.48 and SD = 9.59. A within subjects t-test confirmed the mean ogive ego development level was significantly higher on the forced choice measure, $t(172) = 14.86$, $p < .001$. Analyses also confirmed that mean ogive and sum ego development scores were not significantly different in the fall and spring studies, even though in the fall the forced choice measure was completed 4-5 weeks after the projective and in the spring the time frame was smaller, 2-3 weeks after the projective.

Correlations between individual items (projective item 1 to forced choice item 1) ranged from $-.01$ to $.27$ and are presented in Table 1. Table 2 presents correlations between the ego development ogive levels, sum levels, and item sums as measured by the projective and forced choice procedures. These correlations range from $.36$ to $.45$, $p < .01$ and $p < .001$ respectively. The relationship between ogive levels calculated for the projective and objective measures is presented in Table 3.

Next, the two measures of ego development were compared with a series of confirmatory factor analyses (CFAs).

First, to determine the factor structure of each measure, each set of responses (projective and forced choice) were analyzed with a CFA using EQS (Bentler, 1989, 1995). Each of the eighteen projective items loaded significantly on a single factor (standardized solution, Table 4) and the fit was adequate as demonstrated by $X^2(129) = 131.397$, $p < .42$ and comparative fit index (CFI) = .994.

Based on low item-to-total scale correlations and nonsignificant item loadings in preliminary analyses, items 6 and 10 ("The thing I like about myself is..." and "When people are helpless...") were dropped from the forced choice ego development test. The final forced choice measurement model fit a single factor model with a $X^2(103) = 103.455$, $p < .46$ and a CFI = .996. The resulting standardized solution can be found in Table 5. Also, new TPR sums were calculated based on the remaining 16 forced choice items. Using the modified item sum based on 16 items for the computerized forced choice measure, the correlation between projective and forced choice item sums was $r = .45$, $p < .001$.

The convergent validity of the forced choice measure was examined by modeling the covariation between the two measures with a CFA. This was done because there was moderate internal consistency on the forced choice measure.

Errors were correlated in the model only within scales (projective items or forced choice test items) or if they were the exact same item (number one for the projective and number one for the forced choice SCT). The model fit suggested was acceptable based on $X^2 (511) = 538.09$, $p < .19$ and CFI = .955. The standardized solution is presented in Table 4 and the full model is presented in Figure 2. The estimated correlation between the two measures of ego development was $r = .62$, suggesting the two tests measured similar constructs.

To explore further the relationship between the two ego development measures, a difference score was calculated by subtracting the projective ogive level from the objective, forced choice ogive level. A positive difference score represented an increase in ego development level on the forced choice test, a negative score indicated a decrease. Figure 2 illustrates that the mean difference score was higher for lower projective ego levels and that mean differences scores continued to decrease as projective ego levels increased. Individuals were next grouped according to their projective ego level, collapsing levels E2 and E3 to 3 and levels E7 and E8 to 7 due to small sample sizes. A one-way between groups Analysis of Variance (ANOVA) confirmed that the groups differed in mean difference scores, $F (4, 168) = 19.35$, $p < .001$.

Tukey HSD post hoc tests revealed significant differences between most of the individual groups for mean difference scores (Table 7). For example, people who were classified in levels 2 or 3 by the projective measure went up an average of 2.64 ego levels on the forced choice test. The size of this increase was significantly larger than the increase for people who were at level 5 on the projective test (mean increase of 1.51), people at level 6 (mean increase of .74), and people at level 7 or 8 (mean increase of .29).

Four personality measures, impulsiveness, need for cognition, autonomy, and social desirability, were included in the fall study to assess the construct validity of the forced choice ego development test. Descriptive statistics for these measures can be found in Table 8. The only correlation between the separate ego development measures and impulsiveness, need for cognition, and autonomy scores that was significant was between the forced choice measure and need for cognition, ($r = .24$, $p < .05$) (Table 9). To examine the pattern of difference scores between the projective and forced choice measures, the 4 personality measures were correlated with the difference scores. Again, no significant relationships were found.

The relationship between ego development levels and social desirability was analyzed with a multiple regression

equation that included a quadratic term to detect a curvilinear trend. Social desirability scores were mean centered and squared. The mean centered term and its square were entered into regression analysis as independent variables. Neither the linear nor the quadratic terms were significantly related to either the projective or the forced choice measure.

Discussion

There has been much debate and discussion over Loevinger's (1976) ego development construct, specifically the projective sentence completion test used to measure it. Some researchers claim objective trait inventories are just as comprehensive and easier to administer, but Loevinger (1993) and others believe that the open-ended test format captures an essential and unique aspect of personality (Blasi, 1993; Costa & McCrae, 1993; Hauser, 1993; Hy & Loevinger, 1996; Loevinger, 1993a, 1993b).

The present study tried to answer this long standing question by creating an objective forced choice sentence completion test of ego development and comparing it to the traditional projective measure. It was hypothesized that both tests would measure the same latent construct of ego development. The results partially supported this hypothesis, suggesting the two tests measured similar but not identical constructs.

The first indicator of slight differences in the measures was found by examining the distributions of ego development scores. The forced choice test yielded a higher mean, median, and mode as well as a more restricted range of scores. Also, the overall forced choice distribution was negatively skewed as compared to ego development scores from the projective measure (Figure 1). This means the participants tended to score higher on the computerized forced choice test, selecting more complex and insightful responses from the screen than they wrote out on the projective test.

The forced choice measure also had a lower internal consistency ($\alpha = .60$) than the projective measure ($\alpha = .80$). This higher measurement error (lower internal consistency) in the forced choice test was one factor that attenuated the Pearson correlations that ranged from .36 to .45. Confirmatory factor analysis allows one to model the error terms and measure relationships between latent variables, providing more accurate parameter estimates when measures are problematic. Therefore, the estimated correlation of .62 was treated as the more accurate relationship between the factors. If one applies the formula for a correlation coefficient corrected for attenuation using the original Pearson r between the item

sums (.45), the corrected coefficient is .65, supporting the above assumption (Guilford & Fruchter, 1978).

After correcting for low internal consistency, one would have expected a stronger relationship between the forced choice and projective factors. Although the distribution of scores indicated people scored higher on the forced choice measure, if there simply had been a mean distribution shift the estimated correlation between the two measurement factors would have been higher. Calculating difference scores by subtracting ogive projective ego levels from the forced choice ego levels provided insight into the phenomena underlying the distribution shift. People who had lower projective ego development levels had greater differences between ego levels derived from the projective and forced choice tests; for example the forced choice ego level for impulsive (E2) and self-protective (E3) people was, on average, 2.64 levels higher. The size of the increase for the forced choice ego level continuously decreased as projective ego levels increased such that individualistic (E8) and autonomous (E8) people only increased an average of .23 levels on the forced choice test. The presence of notable mean difference scores for people at most projective ego levels undermines the validity of the forced choice test. The forced choice test appears most valid for people at the highest projective ego

development levels, but this is problematic because the majority of the population is below level 6.

The nonsignificant correlations between the four personality measures and the difference scores in the present study make it impossible to pinpoint the reason for the variations in difference scores. Nonsignificant correlations between difference scores and impulsiveness and need for cognition (tending to enjoy and engage in effortful cognitive activity) as measured in the present study show these variables do not account for the differences, despite what one might expect. However, it is useful to speculate what makes the forced choice test less valid for people who are lower in ego development.

One explanation for the overall negatively skewed distribution of ego development scores on the forced choice measure and the pattern of difference scores involves overall verbal fluency. Soon after the projective measure for ego development was developed it was observed that there is a relationship between simple word count and ego development maturity (Hauser, 1976; Loevinger & Wessler, 1970). One study correlated the number of words in participant responses with ego development ogive levels and reported rs from .14 to .51, with a median of .33 (Loevinger & Wessler, 1970). Interestingly, when item sums were used to represent ego development scores this relationship

increased to .65 (Hauser, 1976). Loevinger acknowledges this is an important relationship, but contends that there is more to ego development. The conceptual complexity of higher ego development usually requires more complex and integrated thoughts, thoughts that in turn can require more in depth, lengthier responses.

To address this relationship, Loevinger argues "for considering verbosity a common distortion factor, which can be thought of as systematic error" (Hauser, 1976, p. 937). When measuring ego development with the forced choice method, the systematic distortion factor of verbal fluency becomes an important distinction. Participants selected a response that matched how they would have completed each sentence, but they were not required to write it out. Using the objective test format, participants may have been more likely to endorse long (and therefore more complex) answers because it took less effort and is independent of their personal verbosity. Therefore, it is plausible verbal fluency was inflated by the forced choice test. This biasing factor may have been especially true for people low in ego development because their personal verbosity tends to be lower. This factor should be clearly partialled out in future research.

A related possibility involves the distinction between a person's current level of functioning and his or her

potential. The salient difference between the 2 measures is that on the projective test a person is required to produce independently a response, whereas the forced choice test required only selection or identification of a response similar to their own. The pattern of differences scores suggests although people lower in ego development could not produce insightful and complex responses they could identify these responses as closer matches to their own. They may have read an answer from higher ego levels and thought, "Yes, that is a better way of expressing what I meant". The ego level increase on the forced choice measure occurred to a lesser degree for people with higher projective ego development. It is difficult to discern whether this reflects a ceiling effect (not many responses even higher or more complex than their own projective responses) or a characteristic of people at lower ego levels.

The greater increase in ego development level for people lower in ego development stands in contrast to research with the projective measure. Although responses can be sensitive to the motivational set, participants only increase an average of .5 ego levels when given "best effort" or role-play instructions. Blumentritt, Novy, Gaa, and Liberman (1996) administered the first 18 items of the projective test to three groups. After one week participants completed the second 18 items of the projective

test, but each group had different instructions. One group was told to answer as an Integrated person and was given a one page description of corresponding ego development characteristics (role-play group). Another group was asked to respond in "the most complex, thought-provoking way that you can" (best effort group) and the third group served as a control, receiving only the traditional instructions. At the re-test the best effort and role-play groups scored half an ego level higher and were significantly different from the control group. Consistent with previous research, the control group ego levels decreased (nonsignificantly) even when completing the second half of the projective test rather than the same 18 items.

The increases on the forced choice test in the present study were much larger than .5 ego level for people with lower projective scores, suggesting something other than motivation sets is influencing their responses. This raises the possibility that the recognition required on the forced choice test is tapping a person's potential ego development, whereas the projective test reflects his / her current level of functioning. The participants were college freshman (the great majority) and still have two years before ego development level generally stabilizes (Loevinger et al., 1985). It is possible that the ability to identify a response from higher ego development levels as one that

reflects their own thoughts is indicative of how developed a person has the capacity to become, but that he or she is lacking the skills, insight, experience, or development to independently function in that manner in the present.

This explanation can account for the greater mean difference scores for people lower in ego development. Using the overall population mean of 5 (Holt, 1980) as a predictor for development, people with a projective ego development score of 2, 3, or 4 have farther to go and therefore should have greater difference scores. Individuals who scored at the 5, 6, 7, or 8 level on the projective test are already at or above the average ego development level, so their predicted future potential would be smaller. A longitudinal study with the current participants is necessary to test this hypothesis.

There are additional factors to consider regarding the moderate relationship between the measures and the overall pattern of difference scores. One is that there was a restricted range of projective ego development levels in the present sample. Using scores from the projective measure, 85.2% of participants were classified as conformist (4), self-aware (5), or conscientious (6). Some research on ego development has intentionally studied diverse populations of participants (such as simultaneously including adolescents, psychiatric patients, university professors) (Loevinger et

al., 1970; Novy et al., 1994; Starrett, 1983). Although there are important distinctions between the three ego levels highly represented in the present sample, the ability of the forced choice test to discriminate between higher and lower ego development levels was not adequately tested. Loevinger's (1979) statement that, "a sample that has few persons beyond those two levels [conformist and conscientious] cannot yield high correlations with other variables" also suggests that restricted range reduced the power of the present study (Loevinger, 1979, 307).

It is also possible that the forced choice response format simply limited the ability of participants to express fully their individual frame of reference (Loevinger, 1993). One participant emailed the researcher commenting, "I know it's impossible to accommodate for all the possible responses, but sometimes my answer is NOTHING like the options, so I just pick one at random". This suggested some of the difference in scores and measurement error might represent the inability of participants to find responses on the screen that resembled their own, or methodology variance.

Turning to the results concerning ego development and the four personality measures, again there were mixed findings. Overall, the internal consistency of the four personality measures were slightly lower and the standard

deviations were smaller than typically reported in previous research. This may be due to the fact that the present sample was too homogeneous. As compared to previously reported norms, the present group of students was slightly more autonomous ($\underline{M} = 25.6$ versus past $\underline{M} = 23.4$) and slightly higher in need for cognition ($\underline{M} = 67.31$ versus past $\underline{M} = 64.6$) (Heist & Yonge, 1968; Smith, Haugtvedt, & Petty, 1994).

When examining the relationships between ego development and the personality measures, only the correlation between the ego development forced choice modified item sum and need for cognition was significant. As previously mentioned, the relationships between the personality measures and the differences scores were all nonsignificant. The restricted range of ego development probably contributed to this lack of relationships also. Starrett (1983) tested the commonality between impulsivity and ego development across three grade levels, junior high, senior high, and college freshmen. With this more diverse population he reported a significant negative relationship between the constructs ($-.23$ for males and $-.31$ for females). However, his findings within the college group alone were weaker ($-.24$ for males and $-.17$ for females) and more consistent with the present results.

Need for cognition was positively associated with ego development maturity but correlations were primarily

nonsignificant (.09 to .24). Autonomy and social desirability were virtually unrelated to ego development. These low correlations may also reflect the inherent difficulties in comparing a stage theory to personality trait theories (Costa & McCrae, 1993; Loevinger, 1993; Westernberg & Block, 1993).

Given the mixed profile of results, what is the potential utility of the forced choice measure? The distribution shift in ego development levels identified by the forced choice test may preclude its use in developmental research designed to carefully differentiate among the nine levels. The difference scores indicate the forced choice test is least useful for classifying impulsive (E2) and self-protective (E3) people. Nonetheless, the benefits in test administration, scoring reliability, and reduced scoring time may outweigh the costs in research at the construct level. The relationship between the latent factors suggests the forced choice test is measuring a construct similar to that measured by the projective ego development test. Research focusing on the structural validity of ego development such as Novy et al. (1994) or modeling its relationship to other variables might find the computerized version acceptable.

The area in which the forced choice test might make the greatest contribution is for repeated assessment designs.

When the projective measure was used in designs that required short term re-testing, decreases in ego development level were reported (Redmore & Waldman, 1975; White, 1985). The researchers speculated that motivation and boredom can confound answers on the projective measure, within the same week one does not finish the same 36 sentences with as much effort or creativity as the first time around.

The forced choice ego development test may combat these problems in several ways. First, computerized administration speeds response time and reduces effort by allowing participants to read and type one letter as opposed to writing out thoughtful responses. Many people also find the computerized studies a novel and engaging alternative to traditional pencil and paper measures. Most importantly, the computerized forced choice test is never exactly the same. The randomization feature of the forced choice test is a distinct advantage because it changes the 19 possible responses for each of the 18 sentences every time the program is run. There are different answers for participants to read each time, forcing them to think again about how they would respond and find a new close approximation. Eventually the same response might appear on the screen, but again its placement was randomized to diminish the influence of automatic or rote responding. If this randomization does keep motivation and effort

stimulated, the forced choice test can be used repeatedly in one or two weeks and ego development scores should not decrease as they do on the projective test.

Ironically, it is this program feature that probably contributed to lower internal consistency scores for the forced choice measure in the present study. The randomization created a different response set (19 possible sentence completions) for every participant, a feature which introduces small measurement error issues. At this time, more research is needed to determine whether the decreased internal consistency is outweighed by the potential of using the test in short term reassessments. If it does not, another avenue to explore is whether individual groups of 3 or 4 projective items can be administered repeatedly over time. This approach would be disadvantageous from a time management and rating reliability standpoint, but serves as an alternative if later research proves the forced choice test invalid for these situations.

If longitudinal research does indicate the forced choice test is tapping ego development potential, this opens up an entirely new area of research. Children and adults could be followed longitudinally and factors that steer development off the predicted track could be identified. These inhibiting or stimulating developmental influences could be addressed by or incorporated into outreach

programs. A test of potential ego development would also contribute to our understanding of growth trajectories and the events that correspond to normal development. Clearly, the meaning of the increase in ego development levels on the forced choice test needs to be explored in research.

Given a research situation with well-trained raters, ample time to score tests, no need for repeated assessment, and a research question that addressed specific differences between ego development levels or on preconformists alone (ego levels 2 and 3), the forced choice measure would not be an adequate measurement option. However, this is not always the case. To assess fully the utility of the forced choice measure one must engage in a cost / benefit analysis. When comparing the ego development construct to other variables in a structural equation modeling program, low internal consistency may not present a significant problem. Also, at the construct level one is not differentiating between specific ego levels. In addition, the forced choice measure is more valid when assessing post-conformists (ego levels 6 and above). In these instances the forced choice test is a moderate substitute for the projective test and is easier to administer and score.

In conclusion, the forced choice measure of ego development warrants further examination. The current study should be replicated with a participants who show wider

variety in ego development. This will allow assessment of whether the forced choice test can adequately discriminate between ego levels and yield further insight into the tendency for people low in ego development to score higher on the forced choice test. Based on the present results it may not be advisable to use the forced choice measure to classify individuals into specific ego levels. Also, test retest reliability of the objective measure or its use as an indicator of ego development potential needs to be established. The forced choice measure does show potential utility for research designs addressing hypothesis about structural validity and the effectiveness of short term interventions. In addition, the forced choice measure may allow researchers to explore questions about ego development stability and its covariation with other personality characteristics or life experiences; questions that can not be adequately answered with the projective measure due to the decreases in short term re-assessment.

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Table 1.

Item-to-item correlations for projective and forced choice
ego development measures

Item number	Pearson's <u>r</u>
1	.06
2	.22*
3	.15
4	.11
5	.02
6	.05 ^A
7	.22*
8	.08
9	.14
10	.04 ^A
11	.27*
12	.27*
13	.06
14	-.01
15	.08
16	.22*
17	.28*
18	.17*

Note. * indicates $p < .05$, ^A indicates this item was dropped from the forced choice SCT.

Table 2

Correlations between the projective and forced choice measures of ego development

Ego development		projective		forced choice		
measure	ogive level	sum level	item sum	ogive level	sum level	modified item sum
projective SCT						
ogive level	1.00	.789*	.808*	.335*	.367*	.405*
sum level		1.00	.958*	.338*	.361*	.382*
item sum			1.00	.351*	.382*	.447*
forced choice SCT						
ogive level				1.00	.869*	.834*
sum level					1.00	.916*
modified item sum						1.00

Note. * indicates $p < .01$ $N = 115$

Table 3

Comparison of ego development classifications made by projective and objective tests

Projective	Objective								Total
	2	3	4	5	6	7	8		
2					1				1
3			1	5	3		1		10
4		1	1	7	18	12	6		45
5			5	2	20	13	13		53
6			2	2	14	21	11		50
7					2	3	7		12
8						1	1		2
Total		1	9	16	58	50	39		173

Note. The 21 exact matches are bold faced.

Table 4.

Confirmatory factor analysis standardized solution for the
projective measure

Item number	Loading on projective ego development factor
1	.502*
2	.552*
3	.586*
4	.424*
5	.414*
6	.318*
7	.466*
8	.281*
9	.453*
10	.433*
11	.350*
12	.533*
13	.457*
14	.368*
15	.381*
16	.580*
17	.457*
18	.251*

Note. * indicates $p < .05$

Table 5.
Confirmatory factor analysis standardized solution for
forced choice measure

Item	Loading on forced choice ego development factor
1	.241*
2	.434*
3	.246*
4	.232*
5	.290*
7	.192
8	.122
9	.400*
11	.251*
12	.375*
13	.212*
14	.378*
15	.128
16	.307*
17	.402*
18	.490*

Note. * indicates $p < .05$

Table 6.
Standardized solution for the full Confirmatory Factor
Analysis

Item number	projective factor	forced choice factor
1	.487*	.209
2	.558*	.414*
3	.575*	.309*
4	.428*	.162
5	.437*	.242*
6	.327*	---
7	.458*	.265*
8	.295*	.141
9	.438*	.326*
10	.426*	---
11	.345*	.363*
12	.543*	.295*
13	.451*	.248*
14	.359*	.346*
15	.378*	.193
16	.583*	.341*
17	.480*	.326*
18	.264*	.507*

Note. * indicates factor loadings $p < .05$. Items 6 and 10 were deleted from the forced choice ego development test

Table 7.

Mean difference scores and Tukey HSD post hoc comparisons for each projective ego level category

Ego Development Category	N	Mean	sd	minimum	maximum
impulsive and					
3- self-protected	11	2.63a	1.12	1	5
4- conformist	45	2.27a	1.09	-1	4
5- self-aware	53	1.51b	1.19	-1	3
6- conscientious	50	.74c	.99	-2	2
7- individualistic and autonomous	14	.29c		.82	-1
					1

Note. Ego development levels 2 and 3 and then 7 and 8 were combined due to small sample sizes (1 person at level 2 and 2 people at level 8). Means with different letter superscripts are significant different at $p < .05$ according to Tukey HSD post hoc analyses.

Table 8.

Descriptive statistics for construct validity measures

projective ego level	autonomy		impulsivity		NFC		social desirability		
	N	M	sd	M	sd	M	sd	M	sd
2	1	63.0	.	11.0	.	79.0	.	13.0	.
3	10	51.0	5.5	7.5	3.4	62.5	10.9	12.5	5.2
4	45	52.4	6.8	8.1	3.9	65.8	6.0	13.6	4.3
5	53	52.3	6.1	7.4	3.2	66.9	6.1	14.2	5.7
6	50	52.5	6.5	8.7	4.1	67.3	6.6	14.2	5.0
7	12	52.2	8.7	5.3	2.9	68.2	3.5	12.7	3.5
8	2	53.0	.	9.0	.	68.0	.	8.0	.
TOTAL		52.5	6.5	7.9	3.7	66.8	6.4	13.7	5.0

Table 9.

Correlations between ego development levels and construct validity measures.

Ego development autonomy	impulsiveness	need for cognition	
Projective SCT			
ogive level	-.05	.09	-.03
sum level	-.04	.10	.03
item sum	-.06	.13	.02
Forced choice SCT			
ogive level	-.09	.20	-.03
sum level	-.18	.21	-.02
modified item sum**	-.16	.24*	-.02

Note. * indicates $p < .05$ **TPR sum reported is based on revised test of 16 items.

Figure Caption

Figure 1. Comparison of ogive level ego development distributions for the projective and forced choice measures.

EGO DEVELOPMENT DISTRIBUTIONS

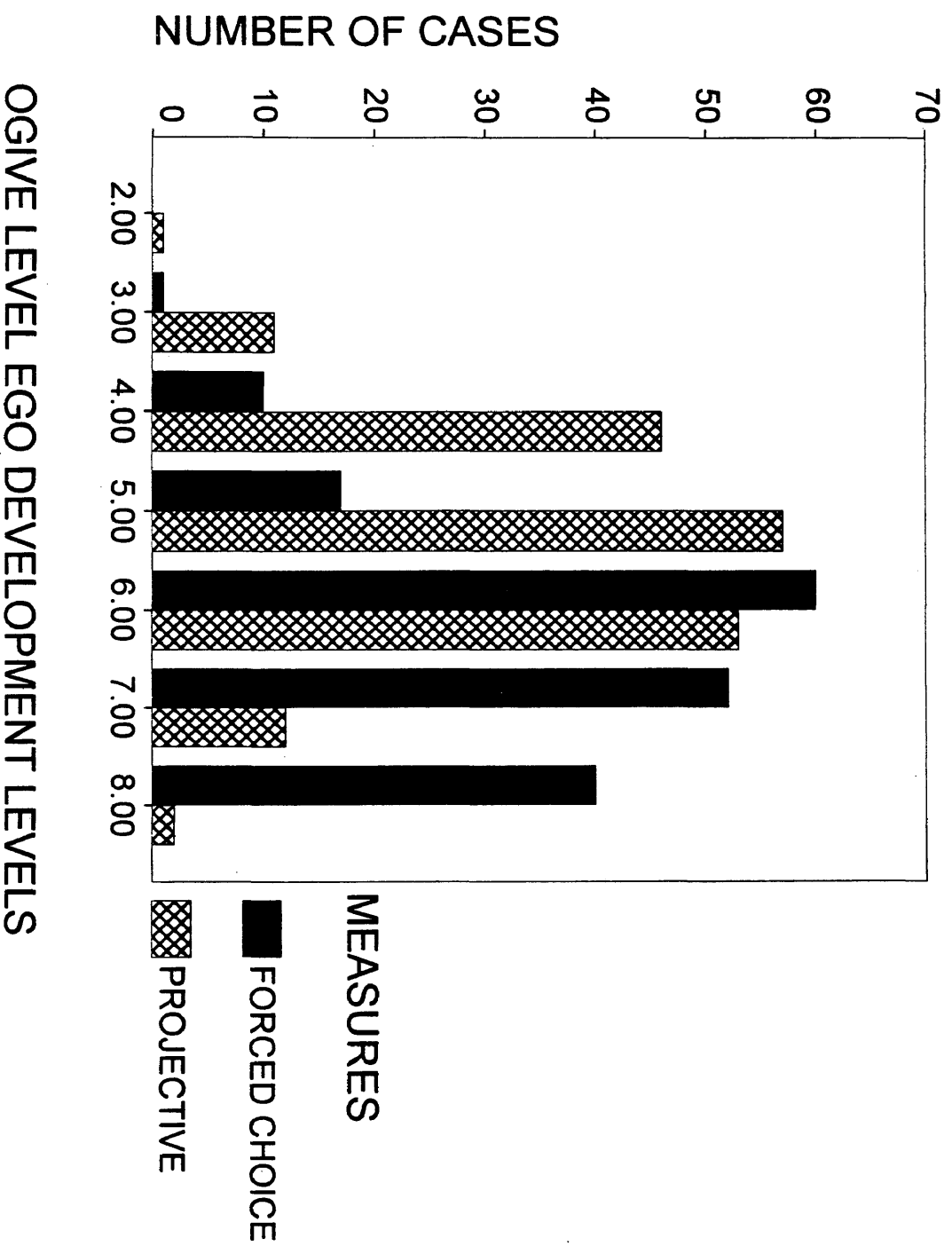


Figure Caption

Figure 2. Distribution of mean difference scores for each projective ego development category.

Mean Difference Scores Between the Projective and Objective Measures

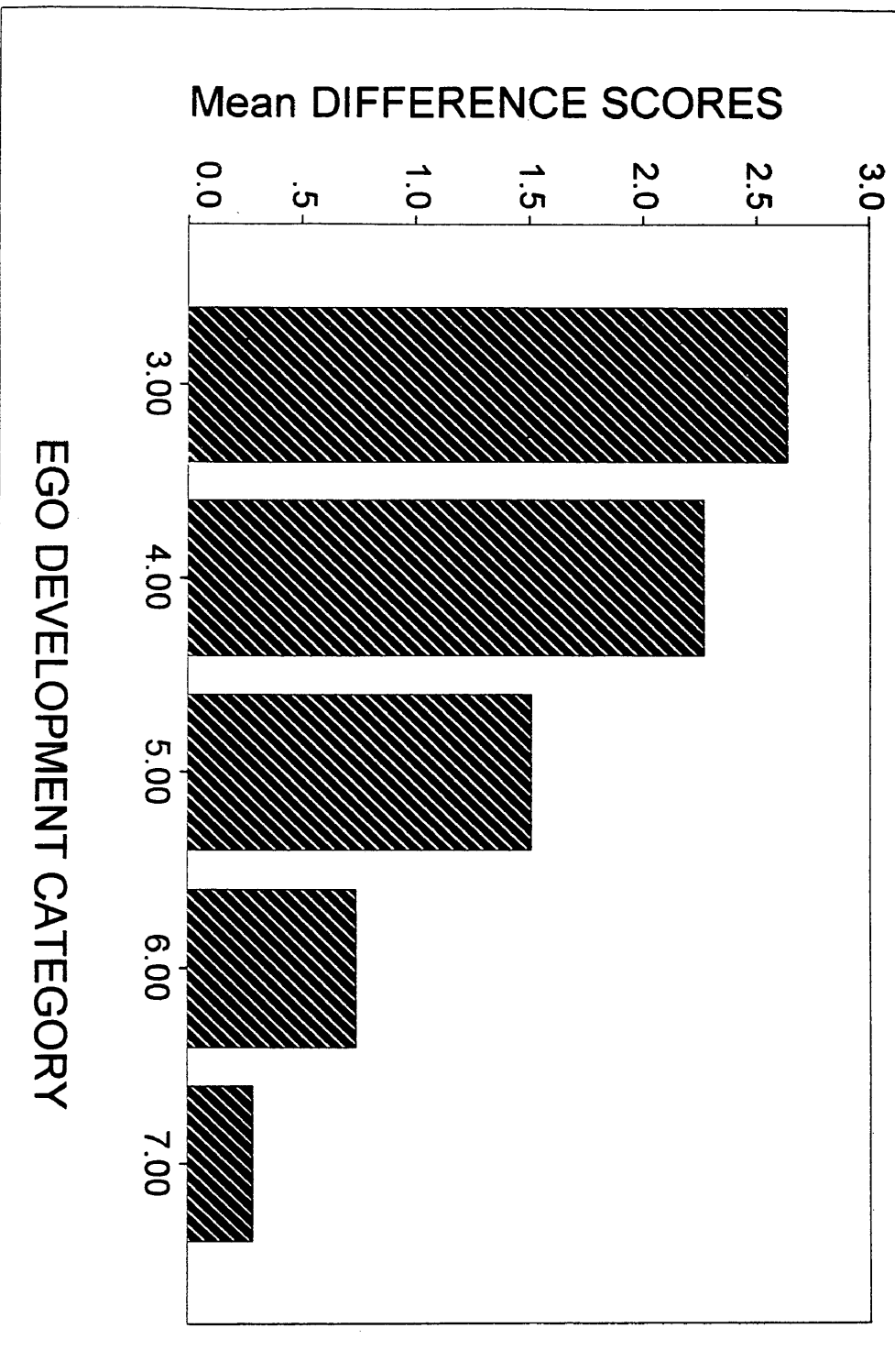
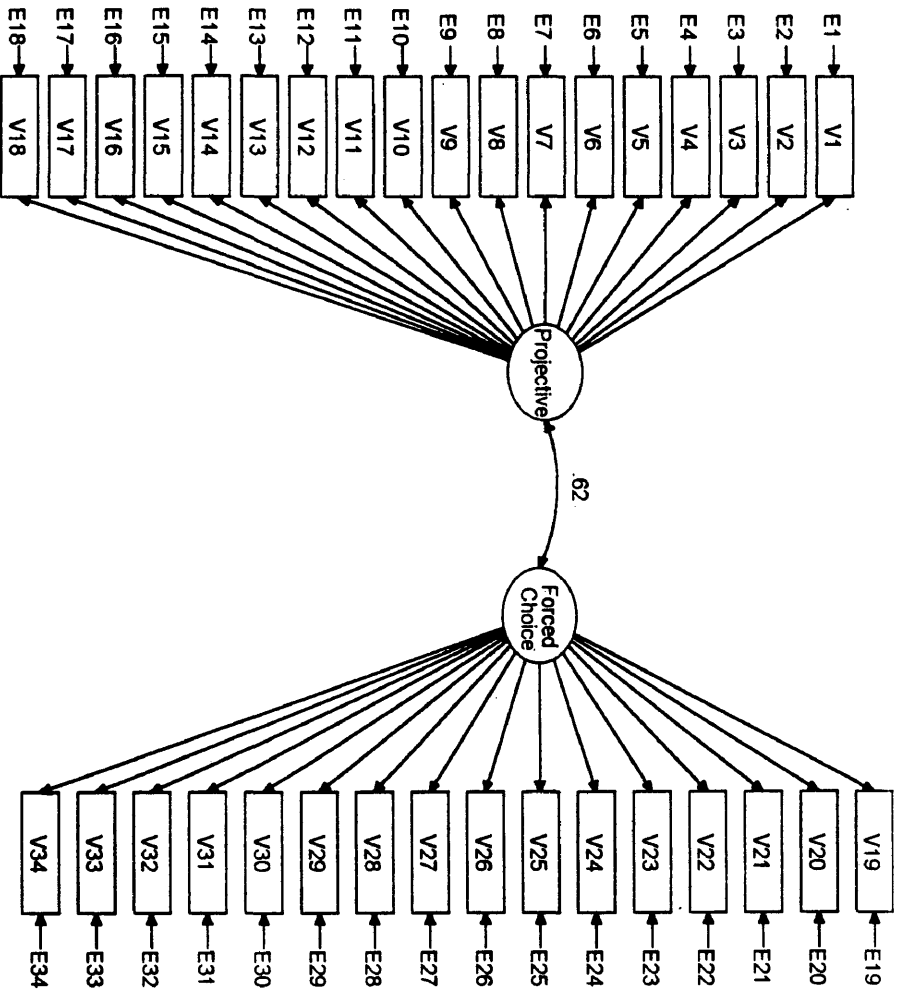


Figure Caption

Figure 3. Full confirmatory factor analysis for projective and objective ego development measures. V1 through V18 loading onto the Projective factor are items 1 through 18 of Loevinger's (1976) sentence completion test. V19 through V34 loading onto the Forced choice factor are items 1 through 18 of the forced choice, objective test, with items 6 and 10 deleted.



Appendix A

Ego Development Sentence Completion Test

Please complete the following sentences.

1. When a child will not join in group activities...
2. Raising a family...
3. When I am criticized...
4. A man's job...
5. Being with other people...
6. The thing I like about myself is...
7. My mother and I...
8. What gets me into trouble is...
9. Education...
10. When people are helpless...
11. Women are lucky because...
12. A good father...
13. A girl has a right to...
14. When they talked about sex I...
15. A wife should...
16. I feel sorry ...
17. A man feels good when...
18. Rules are...

Appendix B

Complete Ego Development Response Sets

In terms of how you feel **TODAY**, choose ONE response to finish this sentence:

1. When a child will not join in group activities.....
 - 2 the game is boring
 - 2 the child is sick
 - 2 the child doesn't want to play
 - 2 the child doesn't like it
 - 3 there is a problem
 - 3 give the child two choices- join or sit by self
 - 3 the child is lazy
 - 3 punish the child
 - 3 one should make the child
 - 3 the child is spoiled
 - 4 there may be something wrong
 - 4 let the child be
 - 4 the child may be shy
 - 4 coax the child
 - 4 the child may be depressed
 - 4 the child loses out
 - 5 the child may be a shy, timid individual
 - 5 ask why
 - 5 the child doesn't learn to work with others
 - 5 you should encourage them to play with one other child
 - 5 you should find something for the child to do
 - 5 the child may prefer to be alone
 - 6 the child should be gently encouraged
 - 6 the child is insecure
 - 6 one may need to explore the reasons
 - 6 the child may need help in making friends
 - 6 respect the child's wishes
 - 6 it is a sign of independence
 - 7 take some time to understand the child
 - 7 I feel sympathy because I used to be that way
 - 7 it may be a healthy or unhealthy sign
 - 7 it just means the child is different in his own way
 - 7 the child may enjoy time by self to to appreciate the surroundings and its own mind
 - 7 I would like to talk with the child and help him or her do what he/she wants to do to be a happy person
 - 8 it is good or bad depending both on the nature of the group and of the child
 - 8 they may dislike the group, prefer something else, be shy, and need encouragement
 - 8 I see how they are, respond to their need, then leave alone or give attention
 - 8 it may mean that the child has an inner strength and sees a different world
2. Raising a family.....

- 2 is OK
- 2 is taking care of the family
- 2 is a bitch!
- 2 is very nice
- 3 is a lot of hard work
- 3 raises your blood pressure
- 3 is easy
- 3 is rough
- 3 is hard for some people
- 3 is hard for a teenage parent
- 4 is typical of married people
- 4 is a big responsibility
- 4 is stressful
- 4 is a tough job
- 4 is something I look forward to
- 4 will be enjoyable
- 5 takes love and patience
- 5 should be a very satisfying experience
- 5 is very difficult on only one salary
- 5 is a hard, challenging job
- 5 has its ups and downs
- 5 is very simple, just get your priorities straight first
- 6 takes the cooperation of all involved
- 6 is a dream of what I'd like in my future
- 6 takes a lot of work and I appreciate the time/effort my parents put into it
- 6 is a long, probably never ending process
- 6 involves trust, understanding, but most of all love
- 6 is challenging and rewarding
- 7 is a life-long commitment
- 7 will be a challenging experience that I look forward to with excitement and fear
- 7 is a commitment I'm not quite ready to take on
- 7 is complex in a society with so many demands, expectations, and criticisms
- 7 is a source of great pleasure, lasts too short a time and is unpredictable
- 7 is an ongoing growing experience
- 8 involves a great deal of give and take and understanding of every member's ideals or morals
- 8 challenges one to test the theories he has held and to find practical ways to implement his philosophy; therefore it is process in completion of one's development
- 8 is filled with worry and pain but is the most joyful, loving experience to have
- 8 is a fulfillment, including the fascination of seeing new spirits find themselves

3. When I am criticized.....

- 2 I will do what I was told
- 2 I like to be alone
- 2 I am doing something wrong
- 2 I make sure I do it right next time
- 3 I get mad
- 3 I tell the guy where to go
- 3 it pisses me off
- 3 I criticize back
- 3 I usually joke about it
- 3 I get mad and hit somebody
- 4 I ignore it

- 4 I don't like it
- 4 I take it in stride
- 4 I blow it off
- 4 I listen
- 4 I accept it
- 5 my feelings are hurt
- 5 I try to correct my fault
- 5 I take a look back at what I did
- 5 I sulk
- 5 I feel embarrassed
- 5 I react different ways
- 6 I usually think about it to see if its appropriate
- 6 I learn from the experience, but sometimes I take it personally
- 6 it hurts at first, but is very positive in the long run
- 6 sometimes I take it to heart, but I know I shouldn't
- 6 I get defensive
- 6 I try to change if it is valid
- 7 I evaluate the criticism and make a decision whether I was right or wrong or should make amends
- 7 I tend to either become withdrawn and introverted, or defensive
- 7 I try to listen, don't like it sometimes and try to evaluate it fairly
- 7 deep down I'm bothered about it but after quick thought I realize how open-minded I need to be
- 7 I am defensive unless I know the person doing the criticizing quite well
- 7 I try not to feel defensive and see what I can learn
- 8 I can usually take it in good spirit and learn from it if it is valid
- 8 I like to see another's point of view
- 8 I accept, evaluate, and act accordingly
- 8 I know I deserve it, partly deserve it, or don't deserve it. The problem is to discover which

4. A man's job.....

- 2 is to go and work
- 2 is to make money
- 2 is hard
- 2 is to get paid
- 3 is lifting heavy objects
- 3 is to do what he wants
- 3 is not only outside the home but inside as well
- 3 is harder than a woman's
- 3 is to act like he knows something
- 3 is to do outside work
- 4 is to support his family
- 4 is very important to him
- 4 is never done
- 4 is to protect his family
- 4 can be tough
- 4 does not end at 5pm
- 5 should be something he enjoys
- 5 should be equal to a woman's job
- 5 depends on what he wants to be

- 5 is to give his family all necessary support
- 5 is just as easy as a woman's job
- 6 is sometimes very challenging
- 6 should not be so consuming as to become his whole life
- 6 is to give his best
- 6 is to provide for his family in more than financial ways
- 6 is to live life to its fullest
- 6 is to hold a responsible job and be involved with community and church
- 7 is just as hard as a woman's, for there's no difference in jobs
- 7 is to figure out what he wants from himself and life and try for it
- 7 must fulfill his desires to accomplish something worthwhile
- 7 is not as structured and rigidly defined as it was years ago
- 7 should be balanced with other areas of life
- 7 to lead with love, compassion and flexibility, along with strength not to be flexible when he's right
- 8 may be rewarding but cannot provide him with all the opportunities for personal development
- 8 a destructive cliché
- 8 is the construction of personally meaningful world
- 8 is to achieve wholeness, just as a woman's is

5. Being with other people.....

- 2 isn't for me
- 2 is fun when getting in trouble
- 2 is fine
- 2 is good or bad
- 3 makes me nervous
- 3 makes me tense
- 3 is not easy
- 3 is hard
- 3 is hard to get along
- 3 gives me butterflies
- 4 is a nice experience
- 4 is a chance to make friends
- 4 is fun if you know them
- 4 is great, unless they are boring
- 4 is a joy and a pleasure
- 4 gives me a good feeling
- 5 gets to be a bit much at times
- 5 makes me feel comfortable
- 5 makes me feel uncomfortable
- 5 is good if interesting
- 5 is something I can't live without
- 5 is desirable at times, but not at others
- 6 relaxes me
- 6 is enriching for me
- 6 affects me differently at different times
- 6 makes life interesting
- 6 lifts my spirits when I am feeling low
- 6 brings different points of view on things
- 7 was a must for me until recently when I learned to like being by myself sometimes
- 7 is rewarding and forces me to grow and change faster

- 7 can be tiring or very satisfying
- 7 is fun if it is balanced with alone time
- 7 is fun when they're "down to earth"
- 7 allows me to see who I really am
- 8 can be stressful for some; for others strengthening
- 8 makes me feel good because we share ideas, opinions, and experiences
- 8 makes me happy because I appreciate their differences and love to learn from them
- 8 is an opportunity to share thoughts and experiences

6. The thing I like about myself is.....

- 2 nothing
- 2 I'm nice
- 2 that I'm not a junkie
- 3 I'm cool
- 3 my good personality
- 3 my looks
- 3 people like me
- 3 my body
- 3 my friends
- 4 that I'm my own self
- 4 I get along with others
- 4 my intelligence
- 4 I'm healthy
- 4 I always have fun
- 4 everything
- 5 I'm responsible
- 5 I'm hard working
- 5 I am very considerate of others
- 5 I am independent
- 5 I'm honest
- 5 my concern for others
- 6 my sense of humor
- 6 I am open-minded
- 6 my optimism
- 6 I am understanding and a good listener
- 6 my ability to change for the better
- 6 my strong will and determination
- 7 I can laugh at me
- 7 that I know how to enjoy life
- 7 my ability to be able to try new things and not worry as much as I used to about what other people think
- 7 I tend to listen to other's problems and allow them to find a solution
- 7 I am honest with myself and my perception of my motives getting harder and harder to find
- 8 I can derive pleasure from simple things
- 8 that I am becoming less critical and more generous and a bit of a risk taker
- 8 my personality, my drive toward mastery, my gifts at growing into my potential
- 8 I'm open to new experiences and people, slow to judge, intelligent, and am able to overcome difficulties without allowing myself to become negative
- 8 my concern to be honest with myself, a claim that may itself be a delusion

7. My Mother and I.....

- 2 fight
- 2 love to play
- 2 are okay
- 2 fight sometimes
- 3 talk on the phone
- 3 like to go shopping
- 3 do things together
- 3 talk every week
- 3 are always together when I'm home
- 3 talk
- 4 get along well
- 4 don't spend enough time together
- 4 love each other
- 4 are not close
- 4 look just the same
- 4 are on good terms
- 5 have very little in common
- 5 were never really pals
- 5 care about each other even though we live far apart
- 5 never see eye to eye
- 5 have many likenesses
- 5 have a great relationship
- 6 have a close relationship which I value greatly
- 6 are alike in some ways and opposite in others
- 6 often educate each other
- 6 are closer now
- 6 are not as close as I would like
- 6 have a friendly, but distant relationship
- 7 have a very relaxed, good relationship. We accept each other's ideas even though we might disagree
- 7 had very little in common when I was growing up but have a better relationship now
- 7 are probably more alike than I tend to admit
- 7 had problems at first but after I moved out we could not be better- we really understand each other
- 7 contrast in many aspects of personality, but we comfort each other through our understanding
- 7 are too much alike in our unhealthy mental habits
- 8 now enjoy a relationship that's free of judgment
- 8 have grown up together and come to terms with our different views in life
- 8 love each other enough to respect each other's private life
- 8 were never really close; friends but no parental relationship

8. What gets me into trouble is.....

- 2 fighting
- 2 other people
- 2 being bad
- 2 boys
- 3 when I do something that my parents consider wrong

- 3 being with the wrong crowd
- 3 my need to have more than one boyfriend/girlfriend
- 3 talking back
- 3 drinking and/or drugs
- 3 spending too much money
- 4 my big mouth
- 4 my temper
- 4 trying to please too many people
- 4 not studying
- 4 being too nice
- 4 lying
- 5 my honesty
- 5 being competitive
- 5 I often say things which I really don't mean
- 5 perhaps being too truthful
- 5 not minding my own business
- 5 saying the wrong thing
- 6 when I fail to think before I speak in a tense situation
- 6 my frankness
- 6 hasty decisions
- 6 my need for love
- 6 procrastination
- 6 overcommitting myself
- 7 when I try too much to live up to other's expectations
- 7 not always seeing the "gray" areas of life
- 7 trying to take all sides in a quarrel because in each side there is some justification
- 7 setting unrealistic goals
- 7 pretending not to need anyone
- 7 that I have the habit of wanting to find out things for myself even if it means terrible consequences
- 8 my ability to become impatient with myself and others when we don't meet my expectations
- 8 attempting or wanting to control things I can't or shouldn't control
- 8 expecting too much of others
- 8 not living up to my own ideals

9. Education.....

- 2 is hard work
- 2 is fun
- 2 is to learn and to be smart
- 2 is hard
- 3 helps you get a job
- 3 is worthless
- 3 is bullshit
- 3 is good
- 3 is pointless
- 3 is good for getting a job
- 4 is important in the world today
- 4 is expensive
- 4 is wonderful
- 4 is important
- 4 is formalized learning
- 4 is essential for all walks of life
- 5 is a necessity in life

- 5 is the key to success
- 5 is important to have, but grades are overly emphasized
- 5 opens doors of opportunity
- 5 is a valuable part of my life
- 5 is a very needed tool in today's society
- 6 expands your horizons
- 6 is important but you can also get knowledge from life
- 6 is a crucial dimension to becoming a productive human being
- 6 is important to a person's well-being and sense of security
- 6 is more than just schooling
- 6 is important in self-development
- 7 doesn't always produce insightful, sensitive people
- 7 never ends
- 7 is the key to more freedom and flexibility
- 7 is a privilege
- 7 should be self-directed
- 7 continues throughout life
- 8 is the development of the entire man, physical, mental, and spiritual
- 8 is the search for truth and the quest of life
- 8 helps a person understand themselves and their relationship to the rest of society
- 8 means a lot to me- I'll stagnate if I never do anything creative

10. When people are helpless.....

- 2 they are very sick
- 2 they are without help
- 2 they feel bad
- 2 they are sick
- 3 they want you to do everything
- 3 I laugh
- 3 you are supposed to help
- 3 I don't care
- 3 they expect everyone to wait on them
- 3 they are boring
- 4 I feel sad
- 4 they aren't trying hard enough
- 4 others should reach out to them
- 4 they should seek help
- 4 they need help
- 4 I lend a hand
- 5 they usually need a shoulder to lean on
- 5 they don't know where to turn
- 5 I enjoy assisting them
- 5 they are unhappy or depressed
- 5 they need all the help they can get
- 5 they need support and encouragement
- 6 I hope that I can help
- 6 they feel frustrated and vulnerable
- 6 I feel they can always do something for themselves to get them out of their rut
- 6 their self-esteem is low
- 6 they should be helped to help themselves

- 6 its hard to know what exactly to do or say
- 7 it scares me and makes me feel sorry for them. I feel guilty
- 7 I feel sorry for them because they must feel they're powerless to make changes
- 7 they are at a disadvantage
- 7 they need social support systems
- 7 it emphasizes my own helplessness- unless I can help them
- 7 it is usually their perception; the rest is circumstantial
- 8 I try to help them find some inner strength or resources
- 8 I pity them and admire those who try to change their situation. I have no respect for those who exploit their helplessness
- 8 they should be encouraged but they are the only ones who can do anything about it
- 8 they elicit respect when they acknowledge and do what they can, and frustration when they don't

11. Women are lucky because.....

- 2 sometimes they get everything
- 2 they are nice
- 2 they always go to stores and buy things
- 2 they are good
- 3 they are pretty
- 3 they don't have to do physical labor
- 3 they get to stay home
- 3 they get the luck
- 3 they can work outside the home
- 3 they get the pay check
- 4 they can have children
- 4 they can be supported by their husband
- 4 they're superior to men
- 4 they don't have to pay for dates
- 4 they were born female
- 4 men take care of them
- 5 they can stand up for their rights
- 5 I don't think they are lucky
- 5 they are pampered
- 5 they have power over men
- 5 they are more understanding
- 5 they live longer
- 6 they usually have the ability to understand people's feelings
- 6 they are allowed to show their feelings
- 6 these days they can get jobs, etc. that they'd been denied in the past
- 6 they can fulfill several roles (career and family)
- 6 they are able to know the feeling of having another life inside them
- 6 I don't think either sex is more lucky
- 7 they have more freedom- they can choose to have a career or not, whereas men have less freedom I this area
- 7 they, like anyone else, have the freedom to choose their destiny
- 7 they support one another in ways that men do not support each other
- 7 they don't have to deal with acting "macho" or proving themselves
- 7 they often have as many options yet fewer responsibilities than men
- 7 they are freer to establish their own criteria for success than men
- 8 women know how to express true feelings to one another without guilt or shame
- 8 they have so many options, emotionally, intellectually, parentally, and careerwise
- 8 they can do, feel, and express things more directly. Men have more role constrictions

8 they are able to feel and understand feelings and needs much deeper than men

12. A good father.....

- 2 is good to have
- 2 buys you things
- 2 is a man
- 3 should give his daughter anything she wants
- 3 is hard working
- 3 never leaves his family
- 3 should not drink too much
- 3 doesn't abandon his children
- 3 does things with his children
- 4 doesn't hit his children
- 4 is there when you need him
- 4 helps take care of the children
- 4 is like my father
- 4 is hard to find
- 4 cares about his family
- 5 is a friend
- 5 loves his family
- 5 spends time with his family
- 5 is responsible
- 5 is understanding and supportive
- 5 is one who takes an interest in his kids
- 6 listens to his children
- 6 sets a good example
- 6 shows guidelines to his children while listening to their ideas
- 6 is a man who opens up to his children
- 6 is loving but firm
- 6 isn't perfect
- 7 enjoys being with his children and thinks of himself as part of a team
- 7 listens, teaches, and allows his children to grow
- 7 is caring and listens to his children even when he doesn't want to hear what has to be said
- 7 combines love, fairness, and humor; spends time with the family and is an important model
- 7 is sensitive to the competing needs of his wife and family
- 7 is one who loves his children from the heart and teaches from the mind
- 8 tries to strike a happy medium between love and indulgence
- 8 helps his children grow to be individuals
- 8 knows the balance between growth, freedom, and control
- 9 raises his children for their own sake
- 9 accepts the individuality and the limitations of his children, recognizes that they too have problems, and manages to be sympathetic at a distance

13. A girl has a right to.....

- 2 fight
- 2 get married
- 2 play
- 2 have a boyfriend
- 3 have sex

- 3 date as many guys as she likes
- 3 protect herself
- 3 work
- 3 have friends
- 3 go out
- 4 do what she wants
- 4 say no to sexual involvement if she wants
- 4 to change her mind
- 4 be loved
- 4 her privacy
- 4 say whatever she wants
- 5 do whatever she wants in life
- 5 speak her mind
- 5 express her needs and wants
- 5 get an abortion on her own free will
- 5 make her own decisions
- 5 do the same things boys do
- 6 all the privileges given to boys
- 6 pursue her dreams
- 6 have casual sex just the way a boy does
- 6 develop according to her talents and abilities
- 6 choose her own way in life
- 6 equal opportunities
- 7 do with her life as she wants as long as it does not hinder the life of another
- 7 a happy life, just as all human beings
- 7 whatever she wants (within certain limits) without having to be burdened with the fact that she is a girl
- 7 do anything she feels she can do, without society restricting her
- 7 anything that does not infringe upon the rights of others
- 7 do anything men can do but still being a feminine person in the process
- 8 realize her potential, regardless of the role restrictions society may try to impose
- 8 be herself whatever that might mean
- 8 grow and explore her own development and direction
- 8 a good education, to be respected as a person emotionally, cognitively, and physically

14. When they talked about sex I.....

- 2 get sick
- 2 walk away
- 2 leave the room
- 2 think its bad
- 3 ignore them
- 3 get excited
- 3 felt ashamed
- 3 was surprised
- 3 enjoy it
- 3 suggested we have it
- 4 listened
- 4 joined in
- 4 blushed
- 4 didn't want to talk about it
- 4 listened
- 4 speak up

- 5 was interested
- 5 sometimes get embarrassed
- 5 kept quiet
- 5 try to find out things that I don't know
- 5 felt uncomfortable
- 5 felt at ease
- 6 offered my opinion
- 6 was amused
- 6 was appalled by their ignorance
- 6 listened with curiosity
- 6 knew they were bragging
- 6 listened but did not offer too many details
- 7 frequently thought it was crude, or was bored, but sometimes found it stimulating
- 7 usually get upset if women are put down
- 7 listened with interest- other people's attitudes on the subject are often surprising
- 7 usually give my opinions if I know them well
- 7 was just as interested as anyone, but a little embarrassed
- 7 am nonjudgmental and open-minded
- 8 listened and wondered why something so natural was such a big source of concern
- 8 thought they were being overly outrageous to compensate for what they hadn't done
- 8 have a tendency not to believe a great deal of what is said, because men are not always that straight-forward on this subject
- 8 wondered why: bragging? complaining? trying to impress? lack self-confidence?

15. A wife should.....

- 2 stay home and watch the children
- 2 be a good lady
- 2 be nice
- 2 keep house
- 3 be obedient
- 3 not have to do all the housework
- 3 know how to cook
- 3 I don't know because I'm not married
- 3 have work too
- 3 not have to do all the housework
- 4 be able to have a career
- 4 love and care for her husband
- 4 be responsible
- 4 be faithful
- 4 provide a caring home
- 4 not commit adultery
- 5 support her husband emotionally and morally
- 5 be her own person
- 5 be her husband's equal
- 5 be the backbone of the family
- 5 be her husband's best friend
- 5 be cherished
- 6 encourage a relationship to be a partnership
- 6 have other interests besides her husband and family
- 6 be kind, gentle, loving and strong enough to defend her beliefs
- 6 be supportive without being submissive

- 6 love and honor, but not necessarily obey, her husband
- 6 be committed to her role of marriage
- 7 be a good mother, an understanding wife, and her own person
- 7 be a best friend and lover
- 7 love herself, her husband and her children and find time for all
- 7 communicate her needs to her husband and learn to understand her husband's needs
- 7 make an effort to keep the marriage healthy
- 7 fulfill her own self and thereby be a better wife
- 8 maintain her sense of self - occupy self and get involved with other things (besides family)
- 8 try not to be all things to all people
- 8 listen to her husbands problems and dreams and strive to combine hers with his
- 8 support her husband emotionally because he needs it, but she should not relinquish her own goal

16. I feel sorry.....

- 2 for myself
- 2 for no one
- 2 when I am sad
- 2 about myself
- 3 about things I did
- 3 when things don't go my way
- 3 the nerds of this world
- 3 for people who get in trouble
- 3 when I make a mistake
- 3 for people sometimes
- 4 for underprivileged people
- 4 for the homeless
- 4 for people who can't make it on their own
- 4 for the sick or handicapped
- 4 for the poor
- 4 for a lot of things
- 5 when I have hurt someone
- 5 for victims of abuse
- 5 that some people are not loved
- 5 for those less fortunate than me
- 5 for all deprived children
- 5 for those who don't help themselves
- 6 when I see someone being taken advantage of
- 6 for those people who sit back and let life pass them by
- 6 that the world is often unfair, violent, etc.
- 6 that I have limited time, resources, and energy
- 6 for myself too much
- 6 for those people who want children but can't
- 7 for those who do not question and explore!
- 7 that I have not set myself free to enjoy my life as much as possible and do all that I would like to
- 7
- 8 that people have to experience pain in order to grow
- 8 for the person that is blinded by hate or ignorance

17. A man feels good when.....

- 2 he gets laid

- 2 he doesn't feel bad
- 2 he feels good
- 2 he has an orgasm
- 3 he has more than one woman
- 3 he has what he wants
- 3 he is working
- 3 he is happy
- 3 he has money
- 3 he's got a few beers in him
- 4 he can accomplish what he wants
- 4 he is in love
- 4 he wakes up without a hangover
- 4 he finally meets the woman of his dreams
- 4 he has a family
- 4 he is healthy
- 5 he is successful
- 5 he is complimented
- 5 he has done something well
- 5 he makes a good living for his family
- 5 he knows he is loved
- 5 he is in control
- 6 he has a sense of accomplishment as a human being
- 6 he has done something he can be proud of
- 6 he shares loving times with his family
- 6 he receives respect for his integrity
- 6 he makes a good business deal
- 6 he is self-confident
- 7 he has an opportunity to demonstrate his competency
- 7 he's physically fit and mentally stretched
- 7 he lives up to capabilities and goals he has
- 7 he can stop being macho and just be himself
- 7 he is at peace with himself
- 7 he finds true companionship
- 8 he feels whole, the same way a woman feels good when she is whole
- 8 his heart is light and his conscience clear
- 8 he uses talents constructively, avoids excesses, and increases his understanding
- 8 he can "let his kid out" and just horse around without exposure to ridicule or criticism

18. Rules are.....

- 2 Rules
- 2 to help clean up the house
- 2 not to have sex or do drugs
- 2 always broken
- 3 Senseless
- 3 what you can or can't do
- 3 stupid at times
- 3 good for the schools
- 3 whatever is put down
- 3 very good for people
- 4 made to be broken
- 4 to be obeyed
- 4 Necessary

- 4 important in everything you do
- 4 easy to break
- 4 designed to discipline people
- 5 helpful in setting limits
- 5 meant to protect the majority
- 5 important in any society
- 5 important but at times should be disregarded
- 5 both good & bad
- 5 sometimes ridiculous
- 6 necessary to maintain order
- 6 should be disobeyed if against personal morals
- 6 made for the safety of yourself as well as others
- 6 important, practical, and silly all at the same time
- 6 important but should be flexible
- 6 not always fair
- 7 made to be followed and changed if they prove to be inadequate
- 7 necessary, but so are exceptions
- 7 made to be evaluated, and if they're not for the good of all, changed
- 7 necessary for order but should not be used to oppress or hurt
- 7 important in helping me not get bogged down in petty decisions
- 7 is essential in an organized society, but sometimes too restrictive
- 8 rules and I dislike them, but try to maintain them and am always making new ones
- 8 most effective when the governed people have made them up
- 8 to provide structure within which freedom abides
- 8 there to guide and direct but not to suppress and/or oppress people

Appendix C

Impulsivity Scale

Instructions: Please answer by selecting 1 for YES and 2 for NO. There are no right answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the question.

1. Do you often buy things on impulse?
2. Do you generally do and say things without stopping to think?
3. Do you often get into a jam because you do things without thinking?
4. Are you an impulsive person?
5. Do you usually think carefully before doing anything?
(**)
6. Do you often do things on the spur of the moment?
7. Do you mostly speak without thinking things out?
8. Do you often get involved in things you later wish you could get out of?
9. Do you get so 'carried away' by new and exciting things, that you never think of possible snags?
10. Do you need to use a lot of self-control to keep out of trouble?
11. Would you agree that almost everything enjoyable is illegal or immoral?
12. Are you often surprised at people's reactions to what you do or say?
13. Do you think an evening out is more successful if it is unplanned or arranged at the last moment?
14. Do you usually work quickly, without bothering to check?
15. Do you often change your interests?
16. Before making up your mind, do you consider all the advantages and disadvantages? (**)
17. Do you prefer to 'sleep on it' before making decisions?
(**)
18. When people shout at you, do you shout back?
19. Do you usually make up your mind quickly?

Appendix D

Need For Cognition Scale

Instructions: For each of the statements below, please indicate to what extent the statement is characteristic of you. Keep the following scale in mind as you rate each of the statements below: 1=extremely uncharacteristic; 2=somewhat uncharacteristic; 3= uncertain; 4= somewhat characteristic; 5= extremely characteristic.

1. I would prefer simple to complex problems.
2. I like to have the responsibility of handling a situation that requires a lot of thinking.
3. Thinking is not my idea of fun. (**)
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities. (**)
5. I try to anticipate and avoid situations where there is a likely chance I will have to think in depth about something. (**)
6. I find satisfaction in deliberating hard and for long hours.
7. I only think as hard as I have to. (**)
8. I prefer to think about small, daily projects to long term ones. (**)
9. I like tasks that require little thought once I've learned them. (**)
10. The idea of relying on thought to make my way to the top appeals to me.
11. I really enjoy a task that involves coming up with new solutions to problems.
12. Learning new ways to think doesn't excite me very much. (**)
13. I prefer my life to be filled with puzzles that I must solve.
14. The notion of thinking abstractly is appealing to me.
15. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but doesn't require much thought.
16. I feel relief rather than satisfaction after completing a task that required a lot of mental effort. (**)
17. Its enough for me that something gets the job done; I don't care how or why it works. (**)
18. I usually end up deliberating about issues even when they do not affect me personally.

Appendix E

Autonomy Scale

1. Society puts too much constraint on the individual.**
2. I should like to belong to several clubs.
3. More than anything else, it is good hard work that makes life worthwhile.
4. Parents are much too easy on their children nowadays.
5. All groups can live in harmony in this country without challenging the system in any way.
6. Every wage earner should be required to save a certain part of his income each month so that he will be able to support himself and his family in later years.
7. It is not the duty of a citizen to support his country right or wrong. **
8. I prefer people who are never profane.
9. My home life was always happy.
10. People ought to be satisfied with what they have.
11. In most ways the poor man is better off than the rich man.
12. There must be something wrong with a person who is lacking in religious feeling.
13. I have been quite independent and free from family rule.**
14. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down.
15. The surest way to a peaceful world is to improve people's morals.
16. One of the most important things children learn is when to disobey authorities.**
17. The trouble with most people is that they don't take things serious enough.
18. Divorce is often justified.**
19. Science has its place, but there are many important things that can never possibly be understood by humankind.
20. It is better to stick to what you have than to try new things you don't really know about.
21. In the final analysis, parents generally turn out to be right about things.
22. It is a pretty callous person who does not feel love and gratitude for his parents.
23. Every person ought to be a supporter for their hometown.
24. Nothing about communism is any good.
25. If you start trying to change things very much you usually make them worse.
26. I dislike women who disregard the usual social or moral conventions.
27. Communism is the most hateful thing in the world today.

28. Unquestioning obedience is not a virtue.**
29. Nothing in life is worth the sacrifice of losing your family.
30. I have been inspired to a way of life based on duty which I have carefully followed.
31. Disobedience to the government is sometimes justified.**
32. I never attend a sexy show if I can avoid it.
33. A person who lets him/herself get tricked has no one but him/herself to blame.
34. I am in favor of strict enforcement of all laws no matter what the consequences.
35. I believe it is the responsibility of intelligent leadership to maintain the established order of things.
36. We should respect the work of our forefathers and not think that we know better than they did.
37. Kindness and generosity are the most important qualities for a wife to have.
38. There is something noble about poverty and suffering.
39. Only a fool would try and change our way of life in this country.
40. Nothing about fascism is any good.
41. The most important qualities of a husband are determination and ambition.
42. I read a great deal even when my work does not require it.**

(** items scored if answered True, all others if answered False)

Appendix F

Social Desirability

1. Before voting I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked someone.
5. On occasion I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I do not get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out in a restaurant.
9. If I could get into a movie without paying for it and be sure I was not seen, I would probably do it.
10. On a few occasions, I have given up doing something because I thought too little about my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.
13. No matter who I'm talking to, I'm always a good listener.
14. I can remember 'playing sick' to get out of something.
15. There have been occasions when I took advantage of someone.
16. I'm always willing to admit when I make a mistake.
17. I always try to practice what I preach.
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.
19. I sometimes try to get even, rather than forgive and forget.
20. When I don't know something, I don't mind at all admitting it.
21. I am always courteous, even to people who are disagreeable.
22. At times I have really insisted on having things my own way.
23. There have been occasions when I felt like smashing things.
24. I would never think of letting someone else be punished for my own wrong doings.
25. I never resent being asked to return a favor.
26. I have never been irked when people expressed ideas different from my own.
27. I never make a long trip without checking the safety of my own car.

28. There have been times when I have been quite jealous of the good fortune of others.
29. I have almost never felt the urge to tell someone off.
30. I am sometimes irritated by people who ask favors of me.
31. I have never felt punished without cause.
32. I sometimes think when people have a misfortune they only got what they deserved.
33. I have never deliberately said something that hurt someone's feelings.

VITA

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