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An Exploratory Factor Analysis of the Character Assessment Scale

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An Exploratory Factor Analysis of the Character Assessment Scale

by

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An Exploratory Factor Analysis

of the

The Character Assessment Scale

by

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Abstract

During the past three decades there has been a resurgence of interest among the social sciences in the study of morality. Among the theoretical perspectives demonstrating this growing interest has been the trait/individual difference approach, represented by the comprehensive personality-based theories of Peck and Havighurst (1960) and Hogan (1973), and a variety of more narrowly focused, trait-based instruments. One such instrument is The Character Assessment Scale (CAS) developed by Schmidt (1981, 1987).

The CAS is a 225-item, true-false scale incorporating conventional moral values. Scale composition includes (a) eight moral strength scales, (b) eight corresponding moral weakness scales, (c) eight combined moral resource scales (moral strength -

moral weakness = moral resource), and (d) a total morality index. While some evidence exists for the reliability of the CAS, its validity has not yet been adequately explored.

The current study examined the construct validity of the CAS utilizing a scale-level exploratory factor analytic approach with the normative sample data (N = 561). Separate analyses for males and females were performed to control for possible gender-related effects. Factor extraction proceeded using a principle components approach, followed by an oblique rotation.

A four-factor solution was found for both males and females based on a roots-greater-than-one criterion, examination of the scree plots, and the psychological meaningfulness of each factor. Factor 1, which accounted for approximately 35% of the total variance, was a bipolar factor containing the majority of the moral weakness scales inversely related to the Denial and Honesty scales. The three remaining factors included (a) a factor containing the majority of moral strength scales, (b) a bipolar factor involving Sexual Integrity and Lust, and (c) a bipolar factor that included Physical Fitness and Gluttony. Marginally

significant gender differences were found among the variable loadings for some factors.

The strengths and weaknesses of the CAS in form, structure, and psychometric properties were discussed. Of concern was the finding that many of the subscales demonstrated significant relationships with age, education level, and frequency of church attendance. Based on these observations and the factor analytic results, recommendations for future studies utilizing the CAS were presented. It was concluded that the current utility of the scale is limited.

Acknowledgements

Among life's challenges and accomplishments, few rival the completion of a doctoral dissertation in its penchant for bringing sharply into focus the reality of our interdependence as human beings. As I stand at the threshold of closing this chapter of my life, I am grateful for the opportunity to acknowledge those whose efforts have made it possible.

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CHAPTER 1

INTRODUCTION

Over the past three decades, the psychological literature has revealed an increased interest among researchers in the empirical investigation and theoretical discourse directed at morality and related issues. This recent resurgence of interest in morality was preceded by a roughly similar time period in which there was a virtual absence of articles examining this domain (Burton, 1963; Hogan & Busch, 1984; Kohlberg, 1964). Such seeming neglect of morality issues in the literature is particularly striking given the strong interest in the topic evidenced during the early years of American psychology.

Three primary views have been advanced regarding the cause of this roughly thirty-year gap: (a) the shifting Zeitgeist in American psychology during the 1920's and 30's away from metaphysical and philosophical interests and towards empiricism (logical positivism) and a more behavioral focus (Gorsuch, 1988;

Haan, 1982; Hogan & Busch, 1984; Pittel & Mendelsohn, 1966; Waterman, 1988); (b) the move towards understanding and examining morality within the context of broader theoretical orientations (i.e., as part of a more comprehensive personality focus) (Pittel & Mendelsohn, 1966); and (c) the pivotal studies of moral character conducted by Hartshorne and May in the late 1920's, which concluded that morality was largely situation-specific rather than character or trait-based (Burton, 1963; Hogan, 1973).

More recently, trends reflected in the psychological literature suggest a growing and diverse body of research and theory aimed at a variety of morality dimensions, including cognitive-developmental aspects (Kohlberg, 1964, 1976, 1984), moral conduct (Haan, Aerts, & Cooper, 1985; Hill & Swanson, 1985; Morrison, Siegal, & Francis, 1983-84); the relationship between moral cognition and behavior (Blasi, 1980; Tsujimoto & Emmons, 1983), moral character (Hogan, 1973; Peck & Havighurst, 1960; Schmidt, 1980), moral traits (Epstein, 1979); morality and emotion (Eisenberg & Miller, 1987; Hoffman, 1979, 1982); moral identity (Blasi, 1984); moral values (Gorsuch & Ortberg, 1983;

Khan & Cross, 1984; Waterman, 1988), and moral values and psychotherapy (Bergin, 1991; Grant, 1985).

Haan (1982) attributed the reemergence of interest in investigating morality to the postpositivist crisis in social science. She wrote, "As social science's dreams of imitating natural science progressively faded, the everyday issue of morality was bound to gain prominence because morality is basic to life" (p. 1096). Kohlberg's questioning of logical positivism's hold on psychology in the early 1960's and his seminal work in examining morality issues proved to be an early catalyst in what is now a broad-based acceptance of this domain as an important area of investigation (Kohlberg, 1981). Hogan and Busch (1984) have heralded this renewed focus on morality issues as "one of the more encouraging evolutions in the social sciences of the 1960's", largely because "values are at the heart of the social process" (p. 227).

Others have noted that there has been a renewed interest in recent years in trait concepts and person variables related to morality as a result of a reanalysis of the data from Hartshorne and May's Character Education Inquiry (Anastasi, 1988; Bem &

Allen, 1974; Burton, 1963; Epstein, 1979; Rushton, 1980; Vitz, 1990).

Developments in psychometric procedures and statistical methodology have provided researchers with a basis for identifying the methodological errors in reporting the Hartshorne and May data, while at the same time yielding more refined and effective means of measurement for the complex dimensions of morality (Epstein, 1979; Rushton, Brainerd, & Pressley, 1983). Although most moral theorists do not deny the important contribution made by the Hartshorne and May study in the understanding of contextual factors in morality, it has been the intrapersonal and interactive dimensions that have received the most attention over the past 30 years (Kurtines, 1986).

While there is a general consensus among theorists concerned with moral phenomena that any thorough understanding of morality must take into consideration its multidimensional nature, most agree that the ultimate concern lies with how those dimensions result in actual moral choice and conduct, and with the degree to which moral conduct is temporally and situationally consistent (Blasi, 1980; Haan, 1978; Haan, Aerts, & Cooper, 1985; Hill & Swanson, 1985; Turiel, 1990). A

A number of theorists have proposed theories to explain moral character and conduct (Boyce & Jenson, 1978; Hill & Swanson, 1985; Hogan, 1973; Peck & Havighurst, 1960; Shelton & McAdams, 1990), and most have developed psychometric tests that measure morality along their proposed dimensions. One such instrument, which purports to measure morally relevant character traits, is the Character Assessment Scale (CAS) developed by Schmidt (1980, 1987).

The CAS was constructed from moral values (eight representing moral strenghts and eight representing moral weaknesses) described as "biblically based" and ecclesiastically traditional. The scale consists of 225 items, utilizing a true-false format, which stress the "interpersonal and behavioral dimensions" of these moral values (Schmidt, 1987, p. 3).

For any scale to be useful, it must demonstrate adequate validity and reliability (American Educational Research Association, American Psychological Association, National Council on Measurement in Education [AERA, APA, NCME], 1985; Anastasi, 1988). While the CAS has been shown to have adequate reliability (Schmidt, 1987), its validity has not yet been adequately demonstrated. The purpose of the

current study, therefore, was to further evaluate the utility of the CAS as a measure of moral traits or character by examining its psychometric properties. Specifically, the construct validity of the CAS was examined, utilizing factor analysis, the statistical procedure described as most suited to this task (Anastasi, 1988).

As a basis for this study, the following areas will be examined in Chapter 1: (a) terminology and taxonomy in morality research, (b) early attempts at measuring morality, (c) research literature on morality from 1960 to the present, (d) the Character Assessment Scale, (e) validity, and (f) a summary and statement of purpose.

Terminology and Taxonomy in Morality Research

Along with the increased interest in morality and related issues among the social sciences has come a concern for the importance of definitional clarity (Wilson, 1980), and an interest in developing a system for facilitating discussion and explicating metatheoretical and practical assumptions (Waterman, 1988). Precisely because any such theoretical

discourse involves debate over normative assumptions, researchers and theorists examining this domain need to develop consensually agreed-on methods and terminology for engaging in constructive dialogue (Kurtines, Alvarez, & Azmitia, 1990).

Definitions of Terms

As Lifton (1985) has noted, a major difficulty in arriving at broad-based definitions in morality research stems from the diversity of theoretical perspectives addressing the issue. Nonetheless, Waterman (1988, p. 284) has proposed a set of definitions that would seem to appeal to diverse approaches. According to Waterman, moral values refer to "the criteria that a person uses as standards for determining what is moral." Moral reasoning has to do with "the cognitive processes used in making decisions....[and is] synonymous with moral judgement and moral decision making." Moral justification relates to "the distinction between teleological (consequentialist) and deontological (intrinsically obligatory) rationales for determining what is moral." Finally, moral behavior (action) is concerned with

"what a person does within a situation that calls for overt activity."

Two additional terms particularly germane to the current discussion are moral traits and moral character. Moral trait is consistent with the long recognized notion of psychological traits in general, typically understood to refer to a relatively stable, consistent behavioral pattern or predisposition (Epstein, 1979; Wiggins, 1973) herein limited, however, to the moral domain. Lifton (1985) has provided a concise and heuristically sound definition of moral character. Noting that moral character is more than just the sum total of a set of morally relevant traits, Lifton defined moral character as "the organizational structure that defines the relation among traits, and among the moral beliefs reflected by each trait" (p. 316).

Taxonomic System for Examining Research Literature

Several authors have proposed comprehensive frameworks for conceptualizing normative assumptions and/or classifying moral phenomena (Boyce & Jensen, 1978; Forsyth, 1980; Kurtines et al., 1990). For the purposes of the present literature review, the proposal

by Kurtines et al. is believed to be most appropriate due to its conciseness and comprehensiveness.

According to Kurtines et al. (1990), normative assumptions vary along four primary dimensions: (a) objectivistic-relativistic, (b) teleological-deontological, (c) rationalistic-empiricist, and (d) naturalism-supernaturalism. Additionally, moral theories are said to vary with respect to the nature of moral standards. The authors cite a number of historical examples of moral standards, including benevolence, equality, happiness, justice, love, self-interest, and utility.

The objectivistic-relativistic dimension addresses the issue of whether morality is universalistic and invariant or contextually-defined. Theories that view morality as having an independent or objective existence are objectivistic and those that view morality as dependent upon the cultural, historical, individual, or situational context are relativistic.

How the good or right is defined in moral theory varies along a teleological-deontological dimension. Teleological theories focus on the question of ultimate values or end results, while deontological theories

define what is right in terms of principles that are inherently obligatory.

Moral theories also vary with respect to their epistemological status. Rationalistic theories attribute the source of what is moral to reason or rationalistic thought, while empiricist theories look to sense experience to determine what is moral.

Finally, theories of moral phenomena vary with respect to their view on the ultimate origins of what is moral or immoral. Naturalistic theories believe the origin of moral standards to be inherent in the natural world, while supernaturalistic theories view morality as ultimately originating with a supernatural being. Kurtines et al. (1990) have noted that, while there is considerable variance in the literature on moral phenomena with respect to three of the four normative assumptions, a broad consensus exists in adopting a naturalistic orientation.

Early Studies Examining Moral Phenomena

Examination of moral issues was considered a valid and important enterprise during the early years of American psychology (Burton, 1963; Hogan, 1973;

Kohlberg, 1964). Pittel and Mendelsohn (1966) have documented an extensive series of studies aimed at measuring moral values and related concepts beginning in the late 19th century. According to the authors, this period in American psychology, which extended through the early 1930's, was, with respect to the moral domain, largely characterized by research aimed at differentiating normal children and adolescents from those with criminal or delinquent behaviors using paper and pencil instruments. Clearly, the most comprehensive and significant study conducted during this period was the Character Education Inquiry (Hartshorne & May, 1930).

Hartshorne and May Studies

During the 1920's, Hartshorne and May, along with their collaborators, conducted an extensive series of studies which attempted to measure and predict moral behavior among nearly 11,000 elementary and high school students (Hartshorne & May, 1928; Hartshorne, May, & Maller, 1929; Hartshorne, May, & Shuttleworth, 1930; Rushton et al., 1983). Entitled the Character Education Inquiry, these studies examined four primary factors believed to reflect moral character: (a) moral

knowledge, (b) moral attitudes, (c) moral conduct, and (d) self-control, described as "the relation of these factors [a-c] to one another and to social self-integration" (Hartshorne & May, 1930, p. 608). The extensive battery of tests administered included 37 tests related to moral conduct (honesty, helpfulness and cooperation, inhibition, persistence) and more than 800 individual items examining the domains of moral knowledge and attitudes. Concurrently, ratings of the students' reputations were obtained from teachers and classmates.

From an analysis of the data, the authors found that the various measures of moral conduct demonstrated consistently low correlations both among themselves within a particular behavioral domain (e.g., honesty) and in relation to the measures of moral attitudes (.20 on the average). These findings were initially believed to support the situational specificity of moral behavior. Hartshorne et al. (1930) wrote:

> It seems to be a fair conclusion from our data that honest and deceptive tendencies represent not general traits nor action guided by general ideals, but specific habits learned in relation to specific situations which have made the one or the

> other mode of response successful....Whatever behavior is studied, the general picture holds true. (pp. 372-373)

This doctrine of specificity suggested that such abstract concepts as "honesty" did not exist as "character traits" or "moral virtues", but were better understood contextually. Thus, "the predictability of one's moral behavior from one situation to another depends on the number of identical elements that the two situations share" (Burton, 1963, p. 482). Further, the small correlations between the battery of tests designed to measure moral knowledge and the behavioral measures suggested the poor predictive ability of cognitive factors in explaining moral conduct.

Reanalysis of the Hartshorne and May data

The published results of the Hartshorne and May studies supporting the doctrine of specificity contributed to a declining interest among psychologists in the empirical study of moral character from the early 1930's to the late 1950's. However, a number of subsequent investigators have reexamined the data from the Character Education Inquiry and have criticized the findings on methodological grounds.

Burton (1963), for example, reanalyzed the data utilizing a principle components factor analytic model and found evidence for a general trait of honesty that accounted for nearly 50% of the variance. Additionally, Burton criticized the focus by Hartshorne and May on the correlations between tests within any given category, emphasizing instead the significant predictive ability of the general trait factor. His findings then, while not rejecting the variance due to specific test determinants, did provide support for the existence of an underlying generality in moral behavior.

Maller (1934), himself a coauthor with Hartshorne and May (1929), found evidence for a general factor of morality when reanalysizing the data utilizing Spearman's tetrad difference technique. Maller reported on a general factor among the behavioral measures, which he described as "the readiness to forego an immediate gain for the sake of a remote but greater gain" (Maller, 1934, p. 101). A number of others have since reported findings of a general moral trait factor (Burton, 1963; Hill & Swanson, 1985; Shelton & McAdams, 1990).

Rushton et al. (1983) utilized the principle of aggregation in reexamining Hartshorne and May's data. According to the aggregation principle, "the sum of a set of multiple measurements is a more stable and unbiased estimator than any single measurement from the set" (pp. 18-19), largely because the error variance is averaged out over multiple measures. When aggregating behavioral measures from the Hartshorne and May data into batteries, correlations with teacher ratings proved to be much higher than the average between-measures correlation of .20. For example, when the five behavioral measures of altruism were aggregated, they correlated .61 with a child's reputation among his or her classmates. Similar results were found for the measures of honesty and self-control (.50 -.60) lending support for the alternative view of cross-situational consistency.

Most authors whose published findings lend support for the existence of moral traits, in contrast to the exclusive emphasis on situational specificity in the Hartshorne and May studies, also support the importance of situational factors in explaining moral behavior. Burton (1963), for example, has proposed a model to account for the variance attributed to specific test

determinants that involves two generalization gradients: one involving the stimulus elements of a situation and the other involving a cognitive mediation component that allows for generalizations to other situations. More recently, Kurtines (1986) has proposed a conceptual framework for the psychosocial integration of individual difference and situational variables in moral decision making.

Research Literature on Morality: 1960 to Present

As previously noted, over the past thirty years there has been a vast body of research and theory generated that has examined morality in one or more of its dimensions. According to Kurtines (1986), this period has been largely dominated by three major theoretical perspectives: cognitive-developmental (e.g., Gilligan, 1982; Kohlberg, 1964, 1976, 1984); individual differences/trait dispositional approaches (e.g., Hogan, 1973; Hogan & Busch, 1984), and behavioral-learning approaches (e.g., Mischel & Peake, 1982).

For the purposes of the present review, only the literature specifically addressing the measurement of

individual differences/trait disposition in morality, the perspective most consistent with the CAS, will be examined. First, the comprehensive, personality-based theories of Peck and Havighurst (1960) and Hogan (1973) are explored. Secondly, more narrowly focused, trait-oriented approaches to the measurement of individual differences in morality are presented.

Finally, a brief review of the literature on gender differences in morality is discussed. Unlike the focussed presentation of trait-based theories, the section addressing gender differences includes a variety of theoretical views.

Characterological Approaches To the Measurement of Morality

Peck and Havighurst's Motivational Theory of Moral Character

Peck and Havighurst (1960) conducted an extensive longitudinal study of moral character based upon an empirically-derived typology. Through a factor analysis of 35 moral traits, the authors identified three primary factors, or traits, that were subsequently found to demonstrate consistency over time. The first involved conformity with socially-

sanctioned moral conventions, or socialization. The second had to do with the ability to perceive, predict, and empathize with the motives, behaviors, and feelings of others along with a congruence between one's self-perception and behavior. The final factor has been described as "the degree to which behavior is directed by, or is in accord with a present and functioning superego" (p. 236). This dimension has been linked to the notion of autonomy (Hogan, 1973).

With respect to these three moral factors, Peck and Havighurst defined five character types: (a) amoral-defiant, (b) expedient, (c) conforming, (d) irrational-conscientious, and (e) rational-altruistic.

The amoral-defiant personality corresponds with what has been typically referred to clinically as the psychopathic personality. Such individuals tend to be narcissistic, impulsive, lacking adequate internalized moral principles, insensitive to and/or unresponsive to the needs of others, and invested in others only to the degree that their own interests are advanced.

The expedient individual is also self-centered and concerned solely with personal gain. However, such individuals do evidence "moral" behavior to the extent that such suits their purpose. There is "give-and-

take" and conformity to social convention in the interest of personal advantage. Like the amoral type, expedient individuals lack an adequate internalized system of moral values or principles and will not hesitate to act immorally if the potential benefits exceed the anticipated social disapproval. Despite their conformity at times, they are described as unsocialized, nonempathic, and nonautonomous.

A conforming individual tends to be motivated by social approval/disapproval and typically defines what is right as "acting according to the rules." They choose to conform to avoid social punishment (guilt, shame) and gain the rewards of acceptance and affirmation, often without any clear understanding or guidance with respect to moral principles. They are socialized, but are found lacking in empathy and autonomy.

The irrational-conscientious individual tends to judge the rightness or wrongness of an act by his or her own internal standards of morality. Rather than conforming to external codes, they appeal to internalized principles that may at times bring them into conflict with external standards. They are irrational in the sense that their rigid adherence to

their internalized "principles" at times may lack objective validity and may thus be inconsistent with the rights of others. They are, therefore, well-socialized and autonomous but non-empathic.

Finally, the rational-altruistic type was high on socialization, autonomy, and empathy. Such individuals display a stable set of internalized moral principles and manifest integrity in adherence to them. In contrast to the irrational-conscientious type, they are also concerned with and sensitive to the rights of others, and allow such information to guide their moral decisions. Such moral traits as honesty, loyalty, responsibility, and altruism have been ascribed to this type. Peck and Havighurst have noted that this is an ideal type few are expected to achieve (see also Hogan, 1973).

In characterizing the normative assumptions of Peck and Havighurst, their strong emphasis on culturally determined values as defined by empirical investigation and their apparent concern with dialectical materialism, suggests a relativistic, teleological, empiricist focus. What is good or right within Peck and Havighurst's theory is determined by the sociocultural-historical context.

While the study by Peck and Havighurst has been described as having demonstrated substantial evidence for the existence of moral traits that are consistent over time (Vitz, 1990), others such as Kohlberg (1964) have questioned the reliability and validity of the findings. However, subsequent research has largely supported the relationship of the three factors (empathy, socialization, autonomy) to moral behavior (Eisenberg & Miller, 1987; Hoffman, 1984; Hogan, 1973).

Hogan's Theory of Moral Character

Robert Hogan (1973) has proposed a multidimensional approach to describing moral character and moral behavior. According to Hogan, moral character could be explained by five relatively independent dimensions. Furthermore, these person-centered variables could be objectively measured, providing a means of assessing individual differences in moral character. The five dimensions are (a) moral knowledge, (b) socialization, (c) empathy, (d) autonomy, and (e) moral judgement (ethical attitude).

Moral knowledge refers simply to the degree to which an individual has learned the rules designed to guide behavior in a social context. Children are said to learn three specific types of rules: specific rules

that primarily involve negative injunctions, general "norms of conduct", or moral principles, and comparison rules--cognitive strategies for matching rules and behavior. Moral knowledge is described by Hogan as a necessary, but not sufficient, component of moral behavior.

Socialization, similar to the psychoanalytic concept of superego development, refers to the degree to which an individual has internalized the rules, values, and prohibitions of society and regards them as "personally mandatory" (Hogan, 1973, p. 221).

Empathy has been defined as a "role-taking" dimension indicating an individual's ability to consider the implications of his or her actions for the welfare of others and the disposition "to adopt the 'moral point of view'" (Hogan, 1973, p. 220).

Autonomy, the degree to which an individual is capable of exercising independence in moral decision-making and conduct, "arises from the assumption that sometimes to be moral an individual must stand against the collective norms of his society" (Hower & Edwards, 1979, p. 24). According to Hogan (1973), "the truely moral man has an autonomous will and governs his actions by a personal sense of duty" (p. 226).

The final dimension, moral judgement, has been defined by Hogan as a bipolar continuum ranging from an ethic of conscience (intuitive-based morality) to an ethic of responsibility (rule-based morality). An individual who emphasizes the former in moral decision making tends to be concerned about his or her own personal understanding and "intuition" with respect to universal laws. Those who emphasize the latter, on the other hand, tend to be concerned about existing societal laws and the overall welfare of society.

Hogan's socioanalytic theory is rooted in the following theoretical assumptions: (a) man is essentially a "rule-following" animal, (b) morality is a natural expression of man's adaptive and evolutionary process, (c) there are no moral absolutes, and (d) there are no sharp distinctions between social and moral rules--both are needed to regulate and modify human affairs (Hogan, 1973).

How a person utilizes the rules of society is a function of the variables of socialization, empathy, and autonomy. For example, using the first two variables, Hogan has postulated that a morally mature person would be high on both, moral realists (see Piaget, 1932/1965) would be high on socialization and

low on empathy, sociopathic types would be high on empathy but low on socialization, and delinquent types would be low on both variables (Hogan, 1973; Hogan, Johnson, & Emler, 1978).

Utilizing the taxonomy proposed by Kurtines et al. (1990), Hogan's views on morality can be considered empiricistic, relativistic, and naturalistic. With respect to the teleological-ontological dimension, Hogan seems to suggest that a balanced determination between what is good and right is consistent with moral maturity. Finally, morality (moral standards) is viewed from a social-evolutionary perspective and is characterized as "a set of (usually codified) rules that defines a network of reciprocal rights and obligations, prohibits gross acts of malevolence and specifies the range of persons to whom the rules apply" (see Kurtines et al., 1990, p. 293).

Operationalization of Hogan's dimensions. Measurement of moral character from the perspective of Hogan's socioanalytic theory has generally focused on the dimensions of socialization, empathy, and autonomy. Socialization has been measured by the Socialization scale of the California Personality Inventory (Gough, 1975). Empathy has been measured by the empathy scale

developed by Hogan (1969) or by the Questionnaire Measure of Emotional Empathy developed by Mehrabian and Epstein (DeWolfe, Jackson, & Winterberger, 1988). Autonomy has been measured by a measure of independent judgement developed by Barron (cited in Hogan, 1973), by the Autonomy Scale developed by Kurtines (cited in Haier, 1977), or the Rotter Internal-External Locus of Control Scale (Rotter, 1966).

While moral knowledge is an important component in understanding morality, it has not been found to be predictive of moral conduct (Hogan, 1973). Furthermore, moral knowledge, as defined by Hogan's theory, seems to be primarily related to intelligence and remains relatively fixed over time from an early age (Hogan, 1973; Maller, 1934; Peck & Havighurst, 1960). Therefore, the majority of studies utilizing Hogan's theory have not included a measure of moral knowledge.

Hogan developed the Survey of Ethical Attitudes (SEA) as a measure of moral judgement based upon his proposed bipolar dimension of ethics of conscience and ethics of responsibility. However, the SEA has seen little use in subsequent research. Although Hartnett and Shumate (1980) did demonstrate some evidence for

its concurrent validity in a study which found a significant difference on SEA scores between offender and nonoffender groups, the middle range SEA scores of the offender group was inconsistent with Hogan's claim that such scores represent moral maturity. Some evidence for the convergent and divergent validity of the SEA was reported by Hogan (1970) in which scores representing an ethics of conscience orientation were found to be positively related to authoritarianism and the Socialization and Communality scales of the California Personality Inventory (CPI) and negatively related to the CPI scales for Flexibility, Psychological Mindedness, and Achievement through Independence.

Research utilizing Hogan's theory of moral character. The operationalization of Hogan's dimensions has involved a variety of instruments, some of which have accumulated a substantial body of research of their own (in particular, reference is made to the literature on the CPI Socialization and Empathy scales [Gough, 1975; Megargee, 1972]). For the purposes of the present review, only the literature specifically utilizing Hogan's dimensions are reported.

Most of the research incorporating Hogan's socioanalytic theory has been correlational in nature and has used criminality or drug use as independent variables. Low scores on both Socialization and Empathy have been consistently related to criminality and self-reported use of hard drugs such as heroin, while high scores on empathy combined with low scores on socialization have been found to be related to marijuana use (Haier, 1977; Hogan, Mankin, Conway, & Fox, 1970; Kurtines, Weiss, & Hogan, 1975). Differing somewhat, Jurkovic (1979) found several drug use variables to be highly related to socialization but not to empathy. In a study using four of the five variables (excluding moral knowledge), Tsujimoto and Emmons (1983) found that only autonomy predicted the dependent variable of actually showing up to participate in charity work. Finally, in at least two studies, no relationship was found between Hogan's socialization, empathy, and autonomy dimensions and Kohlberg's moral judgement stages (Haier, 1977; Tsujimoto & Emmons, 1983).

Consistent with a growing body of research in moral theory (Ford & Lowery, 1986; Gilligan, 1982; Haan et al., 1985), gender differences have been found on

Hogan's primary dimensions. In a study involving 73 female and 59 male college students (N = 132), Haier (1977) examined the relationship between the dimensions of empathy and socialization and a criterion of moral conduct, the use or nonuse of marijuana. As predicted, the use of marijuana among males was inversely related to socialization (r = -.29, p < .05) and positively related to empathy (r = .40, p < .01). Among females, however, marijuana use was significantly related to socialization (r = -.44, p < .01), but not to empathy (r = .02). Additionally, Haier found that females demonstrated greater consistency than males between the dimensions of moral character and two measures of moral reasoning.

In a study involving 86 incarcerated felons (43 male, 43 female), DeWolfe, Jackson, & Winterberger (1988) found males to be significantly higher than females on role-taking empathy (F [3, 77] = 7.88, p < .0001) and internal locus of control (F [5,75] = 6.40, p < .0001), and significantly lower on socialization (F [2,78] = 8.99, p < .0003). Generally, males have been found to score significantly higher than females on role-taking empathy and autonomy, while females have

scored significantly higher than males on socialization and emotional empathy (Haier, 1977; Megargee, 1972).

Individual Difference/Trait Approaches in the Measurement of Morality

Over the past decade, a number of authors have proposed instruments that purportedly measure moral traits and/or behavior. These personological measures include the Visions of Morality Scale (Shelton & McAdams, 1990), Ethical Behavior Rating Scale (Hill & Swanson, 1985), Conventional Morality Scale (Tooke & Ickes, 1988), and the Morality Template (Lifton, 1985, 1986).

Visions of Morality Scale

Shelton and McAdams (1990) have presented a preliminary investigation of a relatively new measure of morality called the Visions of Morality Scale (VMS). Citing criticisms in the literature of cognitive-developmental measures which utilize hypothetical, abstract moral dilemmas, the authors developed a measure that purportedly focuses on concrete, everyday situational realities.

According to the authors, an "everyday morality" encompasses three primary dimensions. The first,

described as "an internal mechanism which serves as a catalyst for moral responding" (p. 927), is similar to the empathy dimension noted by Peck and Havighurst (1960), Hogan (1973) and others (Eisenberg & Miller, 1987; Hoffman, 1979, 1982). The second is a behavioral dimension, considered by many authors to be vital in describing and measuring morality. Finally, the authors have suggested that a prosocial morality is multilevel --private, interpersonal, and social (Shelton & McAdams, 1990).

A private morality has been defined as "anonymous prosocial responding without knowledge of, or a relationship to, the person benefiting from the response" (p. 927). It is rooted in essential humanity and seems to suggest a biosocial origin (Wilson, 1975). The authors wrote, "the rationale for a private morality resides in the integrity of human personhood....a person, by the very fact of his or her humanity, is socially bonded and obligated to consider the needs of others" (p. 927).

An interpersonal morality has been viewed as a prosocial response directed towards a person known to the initiator. Support for such a morality is reportedly derived from traditional moral values,

sociological necessity and recent psychological literature which advocates increased prosocial behavior and decreased individualism.

Finally, a prosocial morality has been said to involve prosocial behavior that emphasizes social issues and humanitarian themes. The authors appealed to "philosophical positions" and the concerns expressed by community mental health practitioners for support of a prosocial morality.

The VMS measures subjects' responses to 45 everyday prosocial situations, 15 for each of the 3 levels of morality, utilizing common daily experiences within an adolescent population. Subjects are asked to respond utilizing a 7-point Likert scale ranging from I would definitely do what the statement says I do, to I definitely would not do what the statement says I do.

In their pilot study, the authors utilized an empathy scale (Interpersonal Reactivity Index) and an ideological measure for liberalism-conservativism (Liberalism Scale). The sample (N = 181) scores on the VMS were used as the dependent variable, with scores on the empathy and idealogy scales along with sex serving as the independent variables. Shelton and McAdams

found that the empathy scales of concern and perspective-taking along with liberalism and sex accounted for approximately 37.8% of the variance in the total morality score. The two empathy dimensions themselves accounted for approximately 22.7% of the variance in the total morality score for males. The authors concluded that (a) empathy is a significant predictor of morality, (b) the relatively high intercorrelations among the three subscales of the VMS suggest a general prosocial orientation among high school students, and (c) there were significant differences on all measures attributable to sex.

Shelton and McAdams have emphasized innate moral obligations and conventional moral principles that are largely derived through reason and intuitive experience. Their normative assumptions are therefore characterized as deontological, objectivistic, and rational-intuitive (Kurtines et al., 1990). While they have not provided specific moral standards, their emphasis on prosocial behavior seems to suggest such values as equity, benevolence, and justice.

Ethical Behavior Rating Scale

In an effort to address obstacles encountered by previous attempts at measuring moral behavior (e.g.,

defining, identifying, quantifying moral behavior), Hill and Swanson (1985) proposed an objective rating scale entitled the Ethical Behavior Rating Scale (EBRS). The scale consists of 15 items drawn from the literature that rate subjects on verbalizations of fairness, right and wrong judgement, group allegiance, decentered logic, trustworthiness, loyalty, honesty, empathy, helpfulness, contrition, participation, independence, altruism, cooperation, and respectfulness. Initial administration of the scale involved 151 adolescent students who were rated by their teachers on each of the 15 items on a scale ranging from never (does) to always (does). Test-retest reliability using a one-year interval was .54 ($p < .001$). Construct validity was demonstrated by reported moderate to high correlations between the EBRS item scores and stage scores on the Ethical Reasoning Inventory, a measure of moral reasoning. A common factor analysis (unrotated) of the EBRS items yielded 2 factors. Factor 1, labeled Personal Moral Character, accounted for 90.6% of the total variance. Factor 2, entitled Verbal Moral Assertiveness, accounted for 9.4% of the variance.

The normative assumptions underlying Hill and Swanson's approach to measuring morality are difficult to determine from the single published article describing the formulation of the EBRS. Their reliance upon traditional moral values that were somehow rationally extracted from the literature (no criteria were given for deciding on the 15 items) suggests an objectivistic, deontological, and rationalistic approach. The list of moral standards included in EBRS was provided earlier.

Conventional Morality Scale

A recently developed empirical measure of morality that is similar to the CAS in epistemological content is the Conventional Morality Scale (CMS) (Tooke & Ickes, 1988). The 60-item scale purportedly measures the degree to which an individual's self-reported behaviors indicate adherence to standards of conventional morality. The items were constructed utilizing "the seven deadly sins" and the Ten Commandments as content guidelines. A sampling of item content includes the following: "I am not the kind of person to hold a grudge" (anger), "I like to read erotic books or magazines" (lust) (Tooke & Ickes, 1988, p. 314).

The authors reported mean Chronbach's alpha of .91 and a test-retest reliability coefficient (2-month interval) of .94. Evidence for divergent and convergent validity was presented, utilizing measures of disinhibition, empathy (men only), social desirability, and self-concept.

A principle components factor analysis with Varimax rotation was used with both initial and cross-replication samples (N = 249, N = 503, respectively). The authors found 19 factors with eigenvalues greater than one. However, only Factor 1, which accounted for approximately 25% of the total variance, was found to be significant following examination of the scree plots. The authors labeled this single factor "adherence to conventional morality" (pp. 319-320).

Finally, some preliminary evidence for the predictive validity of the CMS was presented. Specifically, subjects with high CMS scores were found to be more likely than low scorers to follow through on verbal commitments to participate in a research project (chi-square = 8.54, p = .003).

The normative assumptions supporting the CMS are described as "traditional codes of Western ethical conduct" (Tooke & Ickes, 1988, p. 310). The CMS can be

viewed as unique from the previously described instruments in that the values incorporated in the CMS are ultimately derived from a supernatural being (e.g., the Ten Commandments). The authors' emphasis on universalistic, immutable standards for defining what is right suggests a deontological, objectivistic focus.

Moral Character Template

Lifton (1985, 1986) developed a measure of moral character, entitled the Moral Character Template (MCT), that is composed of 100 items from the California Q-sort. The development of the MCT followed from the template matching studies of personality conducted by Bem and Funder (1978). Utilizing a sample of twenty judges described as experts in the field of psychology and morality research, descriptive statements were ranked on a scale ranging from most characteristic to least characteristic, resulting in a composite description of "an 'ideally or prototypically moral' person" (Lifton, 1985, p. 324).

According to Lifton, the MCT provides a description of the specific behaviors and personality qualities considered to be indicative of a highly moral person. Such individuals are likely to demonstrate behavior that is (a) responsible, dependable, giving,

and forthright towards others; (b) indicative of a concern with philosophical issues such as religion, values, and the meaning of life; and (c) consistent with their ethical and personal standards. Conversely, behaviors inconsistent with moral character include "acting in a guileful, deceitful, manipulative, or opportunistic manner" (1986, p. 70), consistently violating societal limits, projection of blame, and interfering with the efforts of others.

The normative assumptions underlying the MCT are reflected in the author's use of a rational-intuitive approach in arriving at descriptors of a prototypically moral person. This technique yielded standards that are characterized as prosocial and culturally determined. As Lifton (1986) has noted, templates may vary between cultures, but are conceptualized with suprising consistency within similar cultures. Therefore, Lifton's Moral Character Template is considered to be rooted in a relativistic, teleological, rational-intuitive theoretical base.

Gender Differences in Morality Research

A frequent finding in the literature on morality has been the existence of gender differences. With

respect to Hogan's dimensions of empathy, socialization, and autonomy, males have been found to have significantly higher mean scores on autonomy and role-taking empathy while females have demonstrated significantly higher scores on socialization and emotional empathy (DeWolfe, Jackson, & Winterberger, 1988; Gough, 1987; Haier, 1977; Megargee, 1972). Others as well have reported that females tend to score significantly higher than males on empathy measures (Eisenberg & Lennon, 1983; Hoffman, 1977; Shelton & McAdams, 1990).

In addition to the differences noted on Hogan's dimensions, two of the four morality scales discussed earlier reported gender differences (Shelton & McAdams 1990; Tooke & Ickes, 1988), one did not address the question at all (Hill & Swanson, 1985), and the fourth was a Q-Sort derived measure that was reported to show no gender differences (Lifton, 1985). Shelton and McAdams (1990) found that females scored significantly higher than males on all three of the subscales of the Visions of Morality Scale, and Tooke and Ickes reported similar findings for their Conventional Morality Scale.

Gender differences have not been limited to moral trait research, but have also been found in studies

from diverse theoretical perspectives, including cognitive developmental theory, studies of altruism, and moral self-concept literature. In a review of the morality literature up through 1983 involving a variety of theoretical perspectives, Lifton (1985) found that 18 of 45 studies reported main effects attributable to gender, most frequently among studies utilizing Kohlberg's cognitive-developmental approach (14 of 30 studies). In those studies reporting differences based on Kohlberg's theory, they have tended to favor males. In other words, in about half of the studies reviewed that utilized Kohlberg's theoretical orientation, males have been found to score higher than females on measures of moral reasoning (based on a principle of justice).

Gilligan (1982) has criticized the cognitive-developmental theory of Kohlberg and others for its exclusive emphasis on justice reasoning. According to Gilligan, Kohlberg's approach emphasizes the more masculine role of separation and formal abstract reasoning versus the more attachment focus and narrative reasoning consistent with a feminine role (Ford & Lowery, 1986; Gilligan, 1982; Lifton, 1985; Haan et al., 1985). Consequently, Gilligan (1982) has

proposed an alternative approach to measuring cognitive-moral development that is based on an ethic of caring rather than an ethic of justice.

Thus far, there has been little research utilizing Gilligan's approach. There is some evidence to suggest that, rather than justice reasoning being exclusively related to males and an ethic of caring being exclusively related to females, both principles are utilized by both sexes, with females showing greater consistency in their use of the caring principle and males showing greater consistency in their reliance on a principle of justice (Ford & Lowery, 1986). As support for this general dissimilarity in the use of moral reasoning principles among males and females, Vitz (1990) has noted that such differences are consistent with the studies which have found gender differences on measures of empathy.

Rushton (1980) reported that measures of altruism suggest modest gender differences in favor of females. However, the author cautions that it is unclear whether or not this dissimilarity is an actual difference in altruistic behavior or more directly a function of the strong empathy component in altruism, which, as noted

previously, typically favors females (Eisenberg & Lennon, 1983; Hoffman, 1977; Shelton & McAdams, 1990).

Finally, gender differences have been reported in the measurement of moral self-concept. Specifically, Gadzella and Williamson (1984) have reported significantly higher mean scores for females on the Moral-Ethical Self subscale of the Tennessee Self-Concept Scale.

Summary

Over the past thirty years the psychological literature has included a growing and diverse body of research exploring morality and related dimensions. Spured by technical advancements and theoretical evolution, the empirical investigation, theoretical discourse, and measurement of moral issues is now commonplace in the literature. Developments in statistical and psychometric techniques have resulted in a more sophisticated awareness of the need for broad-based instruments with demonstrated psychometric properties in the measurement of morality dimensions.

The trait/individual difference approach to understanding and measuring morality is, in the words

of one author, "alive and well within contemporary psychology" (Vitz, 1990, p. 717). A consistent thread running throughout the literature is the existence of a general moral trait factor (Burton, 1963; Hill & Swanson, 1985; Maller, 1934; Rushton et al., 1983; Shelton & McAdams, 1990). Others have noted a consistent relationship between morality and the personality variables of empathy, socialization, and autonomy (Eisenberg & Miller, 1987; Hoffman, 1979; Hogan, 1973; Peck & Havighurst, 1960).

Until recently, few theorists have attempted to address the question of moral content, or what specifically constitutes moral or immoral behavior. Several articles over the past ten years have encouraged theoretical and empirical investigation aimed at exploring this issue (Bergin, 1991; Haan, 1982; Howard, 1985; Kurtines et al., 1990; Waterman, 1988).

Hogan's (1973) socioanalytic theory of moral character defines morality in terms of adherence to social rules, but says little about specific content. However, his theory seems to presume the principle of self-restraint in the interest of the common good. A

similar view is seen in Peck and Havighurst's (1960) approach to defining moral character.

Recent attempts at defining and measuring morality have incorporated more traditional or conventional values, or have defined morality in terms of "prosocial behavior" (e.g., Eisenberg & Miller, 1987; Shelton & McAdams, 1990). The Ethical Behavior Rating Scale (Hill & Swanson, 1985), for example, includes items that measure such moral traits as trustworthiness, honesty, cooperation, respect, altruism, and so forth. Authors of the Conventional Morality Scale (Tooke & Ickes, 1988) constructed items from specific, traditional moral values found in Judaism and Christianity. Although not incorporating specific, conventional moral standards in their Visions of Morality Scale, Shelton and McAdams (1990) cited traditional ethical codes such as the Ten Commandments as support for their inclusion of an interpersonal dimension of prosocial behavior.

An approach to defining and measuring moral character that is distinct from the other reported instruments is the Moral Character Template (Lifton, 1985, 1986). The MCT had defined morality in terms of composite descriptions derived from existing societal

standards by individuals described as experts in the field.

With the exception of the various instruments subsumed under the theory of moral character advanced by Hogan (1973), the measures of morality presented in this section are relatively new and their psychometric properties largely unsubstantiated. Further, these new scales have focused on a very narrow range of moral behaviors and/or have utilized single items to measure a particular moral trait. Research that has utilized Hogan's dimensions in the measurement of moral character has been primarily aimed at differentiating criminal from non-criminal populations or substance abusers from abstainers. Clearly, there is need in morality research for a more comprehensive, trait-based instrument that effectively discriminates moral strengths and weaknesses on a broader scale and with greater depth. A scale that shows some promise in this regard, but which has largely gone unnoticed in the literature since its publication in 1980, is the Character Assessment Scale.

The Character Assessment Scale

The Character Assessment Scale (CAS), developed in 1980 by Paul Schmidt, is a self-report inventory of moral conduct based on what has been described as traditional, biblically-based moral values. It has been characterized variously as a "personality test" (Schmidt, 1987), a measure of moral traits (Schmidt, 1980, 1987), a measure of moral values (Kassel, no date), a self-esteem measure (Schmidt, 1984), and a measure of "maturity" (Elzerman & Boivin, 1987). According to Schmidt (1987), the CAS was designed to measure morally relevant character traits from a predominately interpersonal and behavioral perspective rather than from a more traditional theological, religious, or intellectual perspective.

The CAS is a 225-item, true-false instrument purportedly measuring eight pairs of moral and immoral attitudes. Scores on each of the eight pairs combine by subtracting each moral weakness from its corresponding moral strength to provide scores on eight moral traits or "resources". The eight character weaknesses are Vanity, Envy, Resentment, Greed, Laziness, Lust, Gluttony, and Denial. The Denial scale

was designed as a validity measure to assess the tendency of individuals to misrepresent themselves by over or under-reporting relatively minor shortcomings. The eight corresponding character strengths are Humility, Compassion, Peacemaking, Resourcefulness, Enthusiasm, Sexual Integrity, Physical Fitness, and Honesty. The eight Moral Resource scales are Truth, Respect, Concern, Anger, Money, Time/Energy, Sexuality, and Body/Health. Finally, the CAS yields a Total Morality Index score which is the summation of the scores on the eight moral resources. The subscales will be examined further in Chapter 2.

For any scale to be useful, it must demonstrate adequate psychometric properties through a series of procedures and statistical analyses. Among the various criteria for evaluating a particular test, validity has been described as the most important consideration (AERA, APA, NCME, 1985). To date, there has been little research examining the validity of the CAS.

Validity

The psychometric utility of any instrument is directly related to the degree to which its reliability and validity have been demonstrated. According to Nunnally (1978),

> psychological measures serve three major functions: (1) establishment of a statistical relationship with a particular variable, (2) representation of a specified universe of content, and (3) measurement of psychological traits. Corresponding to these are three types of validity: (1) predictive (or criterion-related) validity, (2) content validity, and (3) construct validity. (p.87)

Fundamentally, the validity of a measuring instrument is the degree to which it measures what it purports to measure (Anastasi, 1988; Nunnally, 1978). Criterion-related validity refers to the effectiveness of a test in predicting an individual's performance on a criterion measure, a "direct and independent measure of that which the test is designed to predict" (Anastasi, 1988, p. 145). Content validity refers to the degree to which the content of a test adequately covers a

representative sample of the behavioral domain to be measured (Kerlinger, 1986). Construct validity of an instrument is the "extent to which the test may be said to measure a particular construct or trait" (Anastasi, 1988, p. 153).

According to Chronbach and Meehl (1955), a construct is "some postulated attribute of people [that is] assumed to be reflected in test performance" (p. 253). Construct validity attempts to address the question, "What constructs account for variance in test performance" (Chronbach & Meehl, 1955, p. 282). Anastasi (1988) suggested several specific techniques for establishing construct validity: (a) correlations with developmental changes, (b) correlations with other tests, (c) internal consistency, (d) convergent/ divergent discrimination, (e) experimental intervention, and (d) factor analysis. According to Nunnally (1978), factor analysis "is at the heart of the measurement of psychological constructs" (p.112).

To date, there have been no published studies examining the factorial validity of the CAS.

Summary of the Literature Review and Statement of Research Questions

Concurrent with the growing interest in examining morality issues over the past three decades has been a concern with defining and operationalizing morality constructs. This has been particularly true for those theorists who have conceptualized morality as a relatively stable, personality-based dimension.

A broad diversity of theoretical views with respect to normative assumptions have been represented in the literature. Within this diversity, however, has been the general consensus that the empirical determination of what constitutes moral values has yet to be decided. What is clear is that any theory of morality must include clarification of its value assumptions.

Several scales designed to measure moral character and behavior have been proposed, most of which have been self-report measures. One such scale developed by Schmidt (1980, 1987), is the Character Assessment Scale (CAS). The CAS was developed from conventional moral values based on "the seven deadly sins" and their counterpart virtues.

The psychometric properties of the CAS have received little investigation. The purpose of the present study, therefore, was to examine the construct validity of the CAS with respect to its factorial structure. An exploratory factor analytic model was utilized to determine if the CAS is measuring (a) 16 relatively independent moral traits, (b) fewer than 16 independent moral traits, or (c) eight bipolar moral traits. Further, the specific latent constructs or factors were examined to determine their nature and content. Finally, gender differences with respect to the 16 subscales and latent constructs were examined to determine if the dissimilarities often reported in the morality literature are reflected in the CAS.

The current study, therefore, addressed the following research questions:

1. Utilizing a subscale level, exploratory factor analytic model with the data from the normative sample, what is the factor structure of the Character Assessment Scale?

2. Are effects attributed to gender, consistent with many of the previous findings in the morality literature, reflected in the factor matrices for the CAS?

3. Based upon the factor analytic results and a brief examination of the content and structural aspects of the CAS, what is its current utility as a measure of moral traits?

CHAPTER 2

METHODS

Discussion of methodology will involve the following sections: (a) descriptive information pertaining to the participants of this study; (b) description of the instrument under investigation, the Character Assessment Scale (CAS), and a discussion of its psychometric data; and (c) delineation of the statistical procedures used in evaluating the factorial validity of the CAS.

Participants

The participants in this study were those making up the normative sample (N = 600). Initially, an article in The Journal of Pastoral Care (Schmidt, 1980), previewing the CAS, invited readers to request sample copies of the scale and return the completed forms for scoring and inclusion of the data in the normative sample. A total of 450 completed scales were

returned, with the remaining portion of the normative sample made up of psychotherapy clients and members of a Baptist church in Louisville, Kentucky.

Forty-five states and seven Canadian providences were represented in the overall sample, with the majority of respondents residing in the midwestern and southeastern regions of the United States. There were slightly more females than males, with a mean age of 38 years. Regarding education level, 77% of the males and 61% of the females had 16 or more years of education. They were frequent church attenders, with 77% of the males and 72% of the females attending four or more times monthly. Finally, with respect to religious affiliation, the largest percentage of respondents reported a Lutheran denominational preference (48% of males, 41% of females), followed by Southern Baptist (26% of males, 28% of females). Table 1 presents the demographic characteristics of the sample group.

Instrument

The Character Assessment Scale consists of 225 statements such as "At times I have done things which I knew weren't good for my body", and "It is best to

Table 1

Demographic Characteristics of Respondents

		Percentage	
Demographic Variable	Description	Males	Females
Gender	male/female	47%	53%
Age	16 - 24	12%	12%
	25 - 34	33%	31%
	35 - 44	28%	32%
	45 - 54	16%	14%
	55 and older	10%	10%
	Unknown	1%	1%
Regional Residence	Northeast	21%	16%
	Southeast	31%	36%
	Midwest	29%	37%
	West	10%	4%
	Canadian Prov.	8%	7%
	Unknown	1%	1%

(table continues)

Table 1--Continued

Demographic Variable	Description	Percentage	
		Males	Females
Marital Status	Married	70%	57%
	Single (never married)	24%	28%
	Divorced	5%	12%
	Widowed	0%	3%
Years of Education	1 - 12	11%	18%
	13 - 15	10%	19%
	16 - 17	18%	29%
	18 - 20	38%	24%
	21 +	21%	8%
	Unknown	2%	2%
Religious Affiliation	Southern Baptist	26%	28%
	Lutheran	48%	41%
	Fundamental/ Evangelical	4%	3%

(table continues)

Table 1--Continued

Demographic Variable	Description	Percentage	
		Males	Females
	Inactive/ Agnostic	3%	2%
	Catholic	13%	18%
	Pentecostal	1%	2%
	Jewish	1%	1%
	Other	4%	5%
Church Attendance (monthly)	< 3 times	17%	17%
	3 times	6%	11%
	4 - 5 times	21%	18%
	6 - 8 times	20%	21%
	9 - 11 times	12%	12%
	12 or more	24%	21%

Note. n = 260 for males; n = 301 for females.

forgive people who hurt you, even when they don't deserve it and might try the same thing again." Respondents are asked to answer each question utilizing a true-false format.

Subscale composition of the CAS includes eight scales measuring immoral traits, eight measuring corresponding moral traits or virtues, and eight scales (moral resources) which are derived by subtracting each weakness score from its corresponding moral strength score. In addition, a summation of the eight combined scores yields a composite score termed the Total Morality Index. The scales of the CAS are presented in Table 2.

The Denial scale was constructed as a validity measure purporting to offset social desirability factors. The Denial scale can function as a suppressor variable, much like the K factor of the Minnesota Multiphasic Personality Inventory (MMPI) (Meehl & Hathaway, 1946), and is sometimes deducted from each of the Moral Resource scores to give corrected scores. The Denial scale is positively correlated with the moral strength scales and inversely correlated to the moral weakness scales, so that higher scores on Denial

Table 2

Subscales of the Character Assessment Scale

Moral Resource	Character Strength	Character Weakness
Truth	Honesty	Denial
Respect	Humility	Vanity
Concern	Compassion	Envy
Anger	Peacemaking	Resentment
Money	Resourcefulness	Greed
Time/Energy	Enthusiasm	Laziness
Sexuality	Sexual Integrity	Lust
Body/Health	Physical Fitness	Gluttony
	Total Morality Index	

Note. From A Manual for the Use of the Character Assessment Scale, (p. 30) by P. F. Schmidt, Ph.D., 1987, Shelbyville, KY: Institute for Character Development. Copyright 1987 by P. F. Schmidt. Adapted by permission. Moral Resource Subscales are the sum of corresponding Character Strength minus Character Weakness (e.g., Honesty - Denial = Truth).

result in higher scores on the moral strength scales and lower scores on the moral weakness scales.

Reliability of the CAS

The Manual for the Use of the Character Assessment Scale (Schmidt, 1987) reported internal consistency scores (coefficient alpha), based on the normative sample of 600, ranging from .61 to .83 with an average of .75 for the combined scales (moral resource), from .53 to .77 for the character strength scales, and from .54 to .76 for the character weakness scales. The average for the 16 subscales was .66.

The weakest internal consistency estimates (.53 to .56) were found on the character strength scales of Humility, Compassion and Resourcefulness, and the character weakness scale of Vanity. More moderate alphas (.60 to .62) were found with scales measuring the strengths of Peacemaking and Enthusiasm, and the scale measuring the moral weakness of Greed. Among the combined scales, only Respect (Humility-Vanity) had a coefficient alpha less than .70. Internal consistency estimates for the CAS subscales are presented in Table 3.

Table 3

Internal Consistency Estimates for the CAS Subscales

Moral Resource	Alpha	Character Strength	Alpha	Character Weakness	Alpha
Truth	.83	Honesty	.77	Denial	.67
Respect	.61	Humility	.56	Vanity	.54
Concern	.72	Compassion	.56	Envy	.76
Anger	.78	Peacemaking	.62	Resentment	.72
Money	.70	Resourcefulness	.53	Greed	.61
Time/Energy	.74	Enthusiasm	.60	Laziness	.66
Sexuality	.83	Sexual Integrity	.77	Lust	.71
Body/Health	.82	Physical Fitness	.77	Gluttony	.69
		Total Morality Index	.92		

Note. From A Manual for the Use of the Character Assessment Scale, (p. 5) by P. F. Schmidt, Ph.D., 1987, Shelbyville, KY: Institute for Character Development. Copyright 1987 by P. F. Schmidt. Adapted by permission.

Correlations between the matched pairs of strengths and weaknesses were significant in the hypothesized negative direction with two exceptions. The relationship between Vanity and Humility, and between Envy and Concern, showed correlations of -.20 and -.17, respectively, both not significant. Intercorrelations of the matched pairs of scales are presented in Table 4.

According to Schmidt (1981), test-retest reliability has only been completed on the Denial scale. Using a one-week interval, the author found test-retest reliability to be .73 for this scale.

Validity of the CAS

According to Schmidt (1987), item construction and scale development proceeded in several steps. First, a team of eight editors comprised of two clinical psychologists, two pastors, two housewives, and two seminary professors (including a professor of psychiatry) edited detailed descriptions of the sixteen traits provided by the author. Second, a total of 300 individual items reflecting the sixteen trait descriptions were written by the author. Third, the individual items were examined and revised by the team

Table 4

Correlations Between the Paired Subscales of the CAS

Subscale Pairs	Correlation	Signif.
Honesty - Denial	.57	.001
Humility - Vanity	-.20	NS
Compassion - Envy	-.17	NS
Peacemaking - Resentment	-.51	.001
Resourcefulness - Greed	-.43	.001
Enthusiasm - Laziness	-.46	.001
Sexual Integrity - Lust	-.55	.001
Physical Fitness - Gluttony	-.52	.001

Note. From A Manual for the Use of the Character Assessment Scale, (p. 7) by P. F. Schmidt, Ph.D., 1987, Shelbyville, KY: Institute for Character Development. NS = not significant.

of editors. Finally, a pilot study was conducted utilizing a sample of 60 subjects. The subsequent computerized item analysis eliminated those items which did not correlate highly with their respective scale, yielding the present 225-item instrument. Each of the fifteen subscales is comprised of fifteen items, while the Honesty scale is comprised of 28 items from the other scales.

Some support for the validity of the Denial scale has been reported by Schmidt (1987) through an experimental intervention in which participants who had completed the scale were instructed to "fake good" on a second administration of the instrument, with the results revealing significantly higher Denial scores under the prescribed condition ($p < .0001$).

Elzerman and Boivin (1987) provided some evidence for the convergent validity of the CAS in their study using the CAS along with the Shepherd Scale (Bassett et al., 1981) and the MMPI. The Shepherd Scale includes two subscales: a measure of orthodox belief (Shepherd Belief) and Christian walk (Shepherd Walk). Through a principal-components factor analysis, the authors found the moral resource of Truth to be strongly related to

Shepherd Belief and the remaining seven resources to be significantly related to Shepherd Walk.

Limited evidence for the concurrent validity of the CAS has been reported by Schmidt (1988) and Kassel (no date). Schmidt found the Total Morality Index scores of students at a Christian high school to be significantly higher than those obtained from students at a public high school ($p < .01$). Kassel, in a study using undergraduate students from a public university ($n = 55$) and two conservative Christian colleges ($n = 83$), found significant differences in the expected direction between the two groups on the Corrected Morality Index of the CAS ($p = .001$) and the moral resource scores of Respect, Anger, Money, and Sexuality ($p = .01$ to $.001$), but not on Truth, Concern, Time/Energy, and Body/Health.

Statistical Design

The purpose of the present study was to examine the factor structure of the Character Assessment Scale. It was determined that the investigation of factorial structure is an important step in the establishment of an instrument's usefulness. According to Gorsuch

(1983), the primary purpose of factor analysis is "to summarize the interrelationships among the variables in a concise but accurate manner as an aid to conceptualization" (p. 2). Therefore, an exploratory factor analysis was conducted as a step in the process of assessing the psychometric properties of the CAS.

An important consideration in the determination of the level of analysis is the ratio between the number of subjects and the the number of variables. Gorsuch (1983) has suggested an absolute minimum ratio of five individuals to each variable with no less than 100 individuals in an analysis. Based on this criterion, it was determined that a subscale level factor analysis would be most appropriate.

According to Norusis (1985), factor analysis proceeds in four steps: (a) computation of the correlation matrix for all variables and examination of the appropriateness of the factor model, (b) factor extraction, (c) rotation, and (d) computation and examination of factors.

First, computation of the correlation matrices intercorrelating the 16 subscales of the CAS was completed. Utilizing the data from the normative sample, two factor analytic matrices were prepared

based on the hypothesized gender differences often found in morality research. A listwise deletion procedure was implemented where there were missing values for some of the variables. In determining whether the correlation matrix was psychometrically adequate for factor analysis to proceed, two model assumptions were tested using Bartlett's test of Sphericity and the Kaiser-Meyer-Olkin (KMO) model of sampling adequacy (Dziuban & Shirkey, 1974).

Bartlett's test of Sphericity was used to assure that the two correlation matrices were not identity matrices. According to Norusis (1985), an identity matrix is one in which all diagonal terms are one and all off-diagonal terms are zero.

Additionally, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (Dziuban & Shirkey, 1974) was utilized. The KMO measure is "an index for comparing the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients" (Norusis, 1985, p. 129). Small values for the KMO measure would suggest that factor analysis is contraindicated since correlations between paired variables cannot be explained by the other variables.

The second step involved factor extraction. Based on the criteria presented by Gorsuch (1983), a principle components extraction procedure (common factor model) was determined to be appropriate. Principle components analysis maximizes the sum of squared loadings of each factor extracted in turn, so that each factor explains more variance than would the loadings obtained by any other method (Nunnally, 1978). The number of factors extracted was determined using the criterion of latent roots $\geq$ 1 (Gorsuch, 1983).

The two primary methods of factor extraction are orthogonal and oblique. Orthogonal rotation proceeds on the assumption that the factors are uncorrelated (Gorsuch, 1983). The previously reported findings in the research literature on the measurement of morality dimensions suggested a significant degree of overlap (correlation) among morality constructs. Further, Schmidt's (1987) reported findings confirm the existence of correlations between subscales of the CAS. Therefore, it was determined that an oblique analytic rotation procedure was more appropriate. The method for oblique rotation available in the Statistical Package for the Social Sciences (SPSSx) is called Oblimin (Norusis, 1985).

The final step in factor analysis involved examination and interpretation of the factors. Several procedures have been suggested for evaluating the final factor solution. Cattell (1966) recommended examining the scree plot, which provides a visual analysis for determining substantive factors. Additionally, Gorsuch (1983) has recommended examining the amount of variance attributed to each factor and evaluating the factor's psychological meaningfulness.

CHAPTER 3

RESULTS

Following from the procedural steps delineated in the previous chapter, Chapter 3 summarizes the data and their statistical analyses utilizing the following sections: (a) participants, (b) descriptive statistics, (c) factor analysis, and (d) summary of results.

Participants

Following the listwise deletion of cases due to missing data, a sample of 561 participants, or approximately 94% of the total participants in the normative sample, remained for data analysis. Of the 561 subjects, 46% were male and 54% were female. Separate factor analyses were completed for males and females based upon the hypothesized gender differences, utilizing a sample size of 260 for males and 301 for females. The number of participants in each factor

analysis exceeded the minimum criteria suggested by Gorsuch (1983) of five per variable.

Descriptive Statistics

Descriptive statistics for the normative sample are presented separately for males and females. First, means and standard deviations for the sixteen primary subscales for each group are reported (Table 5 and Table 6). Second, comparisons of mean scores for males and females are presented in Table 7. Finally, correlations between the 16 subscales and selected demographic variables for each group are reported in Tables 8 and 9.

Examination of descriptive statistics revealed significant mean score differences between males and females on eight of the sixteen subscales ($p < .05$ to .001). Males tended to score significantly higher than females on Resourcefulness (t [586] = 2.45, $p < .01$), Lust (t [586] = 10.83, $p < .001$) and Vanity (t [586] = 2.31, $p < .05$). Females tended to score significantly higher than males on Compassion (t [586] = -3.14, $p < .01$), Sexual Integrity (t [586] = -2.27, $p < .05$), Laziness (t [586] = -2.18, $p < .05$), Envy

Table 5

Means and Standard Deviations for Males

	Subscale	Mean	S.D.
	Honesty	18.500	4.866
	Humility	9.473	2.451
	Compassion	10.896	2.417
Moral	Peacemaking	9.850	2.778
Strength	Resourcefulness	9.530	2.437
	Enthusiasm	10.969	2.627
	Sexual Integrity	8.892	3.405
	Physical Fitness	9.326	3.309
	Denial	3.673	2.653
	Vanity	7.126	2.771
	Envy	5.030	3.214
Moral	Resentment	4.903	3.092
Weakness	Greed	4.550	2.468
	Laziness	4.823	2.722
	Lust	8.300	2.724
	Gluttony	4.176	2.806

Note: n = 260.

Table 6

Means and Standard Deviations for Females

	Subscale	Mean	S.D.
Moral Strength	Honesty	18.790	4.378
	Humility	9.740	2.339
	Compassion	11.511	2.014
	Peacemaking	9.877	2.586
	Resourcefulness	9.016	2.502
	Enthusiasm	10.777	2.420
	Sexual Integrity	9.498	3.310
	Physical Fitness	9.375	3.221
Moral Weakness	Denial	4.235	2.906
	Vanity	6.671	2.532
	Envy	5.564	3.269
	Resentment	4.873	3.005
	Greed	4.588	2.629
	Laziness	5.325	2.664
	Lust	5.714	3.059
	Gluttony	4.066	2.633

Note: $n = 301$.

Table 7

Mean Subscale Score Comparisons for Males and Females

Subscale	Male	Female	t
Honesty	18.50	18.79	-.71
Humility	9.47	9.74	.86
Compassion	10.90	11.51	-3.14**
Peacemaking	9.85	9.88	.21
Resourcefulness	9.53	9.02	2.45**
Enthusiasm	10.97	10.78	1.00
Sexual Integrity	8.89	9.50	-2.27*
Physical Fitness	9.33	9.38	-.15
Denial	3.67	4.24	-2.68**
Vanity	7.13	6.67	2.31*
Envy	5.03	5.56	-2.07*
Resentment	4.90	4.87	.01
Greed	4.55	4.59	-.11
Laziness	4.82	5.33	-2.18*
Lust	8.30	5.71	10.83***
Gluttony	4.18	4.07	.85

Note: n = 270 for males; n = 318 for females. df = 586.

*p < .05. **p < .01. ***p < .001.

Table 8

Correlations Between CAS Subscales and Selected Demographic Variables for Males

	Demographic Variable		
Subscale	Age	Years of Education	Church Attendance
Moral Strength			
Honesty	.05	-.16**	.14*
Humility	.04	-.04	.41***
Compassion	.11	.16**	.20***
Peacemaking	.09	.08	.19**
Resourcefulness	.17**	.13*	.40***
Enthusiasm	.25***	.25***	.05
Sexual Integrity	.02	-.14*	.34***
Physical Fitness	.10	.17**	.01
Moral Weakness			
Denial	-.05	-.13*	.13*
Vanity	-.08	.00	-.19**
Envy	-.22***	-.03	-.10

(table continues)

Table 8--Continued

	Demographic Variable		
Subscale	Age	Years of Education	Church Attendance
Resentment	-.11	.05	-.15*
Greed	-.01	-.07	-.31***
Laziness	-.25***	-.16*	-.09
Lust	-.11	.03	-.33***
Gluttony	-.12	-.10	-.14*

Note: n = 260. Years of education = number of years completed.

*p < .05. **p < .01. ***p <.001.

Table 9

Correlations Between CAS Subscales and Selected Demographic Variables for Females

	Demographic Variable		
Subscale	Age	Years of Education	Church Attendance
Moral Strength			
Honesty	.08	-.06	.13*
Humility	.06	-.14*	.24***
Compassion	.06	.05	.14*
Peacemaking	.00	.03	.11*
Resourcefulness	.16**	.05	.35***
Enthusiasm	.11	.09	.07
Sexual Integrity	.12*	-.12*	.29***
Physical Fitness	.06	.02	.01
Moral Weakness			
Denial	.10	.07	.13*
Vanity	-.02	-.11*	-.11
Envy	-.14*	-.10	-.10

(table continues)

Table 9--Continued

Subscale	Demographic Variable		
	Age	Years of Education	Church Attendance
Resentment	-.13*	-.08	-.16**
Greed	-.08	-.21***	-.29***
Laziness	-.20***	-.20***	-.15**
Lust	-.24***	.00	-.28***
Gluttony	-.09	-.13*	-.11*

Note: n = 301. Years of education = number of years completed.

*p < .05. **p < .01. ***p <.001.

(t [586] = -2.07, p < .05) and Denial (t [566] = -2.68, p < .01).

Descriptive statistics also revealed significant correlations between three of the demographic variables and many of the subscales. The demographic variables demonstrating significant relationships were age, years of education, and frequency of church attendance. For

males, four of the subscales demonstrated significant correlations with age, eight with years of education, and twelve with church attendance. For females, six of the subscales demonstrated significant correlations with age, six with years of education, and twelve with frequency of church attendance. For both males and females, the moral strength scales were positively correlated and the moral weakness scales inversely correlated with age and frequency of church attendance.

Exploratory Factor Analysis

Analysis of Model Assumptions

Dziuban and Shirkey (1974) have recommended that, prior to any factor analysis, the psychometric adequacy of the sample correlation matrices be assessed. Examination of the correlation matrices with respect to model assumptions proceeded in two steps.

First, Bartlett's test of sphericity was used to determine if the correlation matrices for males and females were identity matrices. According to Norusis (1988), if the value of the test statistic for sphericity is large and the significance level small, it is unlikely that a correlation matrix is an identity

matrix and the factor analysis can proceed. As reported in Table 10, the hypothesis that the correlation matrix was an identity matrix was rejected for both males and females.

Table 10

Tests of Factor Analytic Model Assumptions for Males and Females

	Model Assumption Tests	
Sex	Bartlett's	Kaiser-Meyer-Olkin
Males	1752.53	.876
Females	1878.09	.841

Note: Significance level for Bartlett's test of sphericity = .000.

Secondly, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was used to compare the magnitudes of the observed correlation coefficients to those of the partial correlation coefficients. According to Norusis (1988), small values for the KMO measure indicate that

factor analysis is contraindicated, since correlations between pairs of variables cannot be explained by other variables. Kaiser (1974) has described measures in the .90's as marvelous, in the .80's as meritorious, in the .70's as middling, in the .60's as mediocre, in the .50's as miserable, and below .50 as unacceptable. As noted in Table 10, the KMO measure for both males and females were in the meritorious range, supporting the appropriateness of factor analysis.

Principal Components Analysis

Initial factors were extracted utilizing principal components analysis for each of the two correlation matrices. In principal components analysis, the first factor (component) extracted accounts for the greatest amount of variance in the sample, the second factor extracted accounts for the next largest amount of variance, and so forth, until the total amount of variance is accounted for (Norusis, 1988). Components which had an eigenvalue greater than or equal to one were retained. Factors were examined utilizing the procedures suggested by Gorsuch (1983): (a) examination of the scree plot, (b) identifaction of the

percentage of variance accounted for by each factor, and (c) determination of psychological meaningfulness.

Following extraction of factors, the initial solution was rotated to a more simple structure, utilizing an oblique (oblimin) rotation procedure, to maximize interpretability. The oblique rotation produced both pattern and structure matrices.

The pattern matrix contains the factor loadings indicating the unique contribution (statistically independent of the other factors) of each factor to the variables; it does not show the relationship of the variables to the factors (Gorsuch, 1983). The pattern matrix allows for the identification of the variables that are most salient for the factor. The structure matrix contains the actual correlation coefficients for each variable with the full factor (including the variance contributed by other factors). Examining the correlations between the variables and factors aids in drawing conclusions about the nature of each factor (Gorsuch, 1983). Results of the principal components analyses are presented separately for males and females.

Factor Analysis for Males

A principal components analysis of the correlation matrices for males yielded four factors with eigenvalues $\geq$ 1. The first factor accounted for 37.7% of the total variance, with the three successively extracted factors accounting for an additional 25.8% of the variance. Combination of the four factors accounted for 63.5% of the total variance. Results of the principal components analysis for males are presented in Table 11.

An oblique rotation of the factor matrix yielded four factors. Examination of the scree plot (Figure 1) confirmed the adequacy of a four-factor solution. The pattern and structure matrices produced by the oblique rotation are presented in Tables 12 and 13, respectively.

Factor 1 was a bipolar factor that included negative loadings for five of the eight character weaknesses (Vanity, Envy, Resentment, Greed, Laziness) and positive loadings for a sixth character weakness, Denial, and the character strength of Honesty. Factor 2 was also a bipolar factor that contained a positive loading for the character strength of Sexual Integrity and a negative loading for the moral weakness of Lust.

Table 11

Principal Components Analysis for Males

Factor	Eigenvalue	Pct of Variance	Cum Pct
1	6.026	37.7	37.7
2	1.543	9.6	47.3
3	1.422	8.9	56.2
4	1.165	7.3	63.5
5	.797	5.0	68.5
6	.747	4.7	73.1
7	.636	4.0	77.1
8	.603	3.8	80.9
9	.514	3.2	84.1
10	.488	3.1	87.2
11	.456	2.9	90.0
12	.387	2.4	92.4
13	.355	2.2	94.7
14	.317	2.0	96.7
15	.279	1.7	98.4
16	.256	1.6	100.0

Note: n = 260.

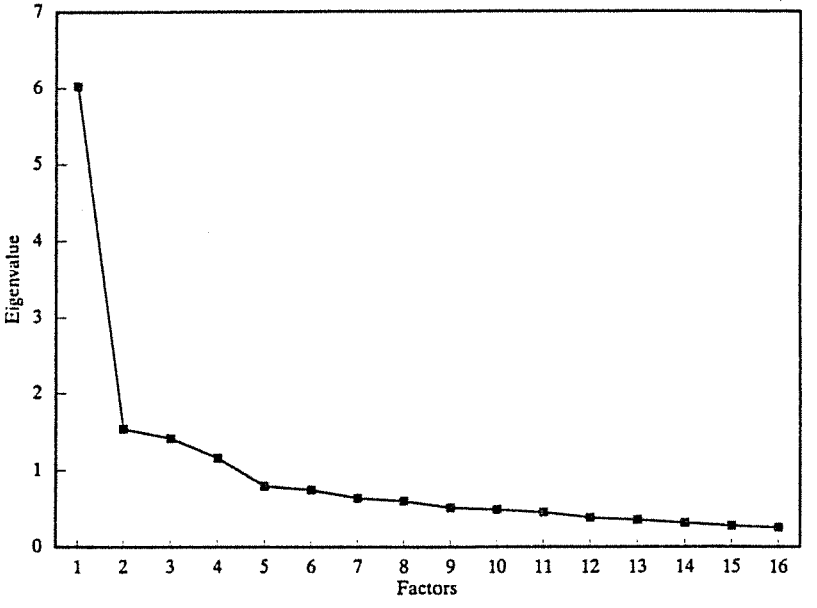

Figure 1. Scree plot produced by principal components analysis for males.

Table 12

Pattern Matrix for Males

	Factors			
Subscale	1	2	3	4
Vanity	-.882	.011	.104	.176
Envy	-.788	.164	-.120	-.051
Resentment	-.682	-.044	-.159	-.103
Greed	-.643	-.229	.115	.013
Denial	.592	.064	.093	.064
Honesty	.561	.186	.128	.289
Sexual Integr.	-.038	.894	.025	.018
Lust	-.107	-.738	-.004	-.188
Resourcefulness	.064	.447	.447	.055
Compassion	-.007	.028	.823	-.140
Enthusiasm	-.021	-.246	.670	.409
Humility	.225	.347	.556	-.169
Peacemaking	.239	.126	.487	.145
Physical Fitn.	-.143	.117	.072	.853
Gluttony	-.248	-.140	.227	-.675
Laziness	-.468	.214	-.167	-.470

Note: n = 260.

Table 13

Structure Matrix for Males

	Factors			
Subscale	1	2	3	4
Vanity	-.789	-.253	-.123	-.082
Envy	-.786	-.130	-.346	-.318
Resentment	-.780	-.315	-.401	-.365
Honesty	.757	.429	.401	.519
Greed	-.681	-.427	-.119	-.190
Denial	.664	.289	.302	.284
Sexual Integ.	.279	.887	.173	.102
Lust	-.420	-.794	-.210	-.298
Compassion	.210	.154	.793	.052
Enthusiasm	.232	-.096	.716	.534
Humility	.460	.504	.646	.068
Peacemaking	.479	.307	.617	.349
Resourcefulness	.372	.553	.558	.226
Physical Fitn.	.193	.166	.248	.836
Gluttony	-.443	-.252	-.031	-.716
Laziness	-.599	-.021	-.384	-.639

Note: n = 260.

Resourcefulness and Humility also loaded positively with Factor 2 (.44 and .34, respectively), but appear to have split between Factor 2 and Factor 3 (.44 and .55, respectively). Factor 3 contained positive loadings for five of the eight character strengths: Compassion, Enthusiasm, Humility, Peacemaking, and Resourcefulness. Finally, Factor 4, also a bipolar factor, included a positive loading for the moral strength of Physical Fitness and negative loadings for the moral weaknesses of Gluttony and Laziness. As with Resourcefulness and Humility, Laziness split between two factors; Factor 4 (-.47) and Factor 1 (-.46), the latter having included six of the eight moral weaknesses.

Examination of the factor correlation matrix revealed the following significant relationships among the four factors: (a) Factor 1 was positively correlated with Factor 2 (r = .34), Factor 3 (r = .31), and Factor 4 (r = .32), and (b) Factor 3 was positively correlated to Factor 4 (r = .23). The factor correlation matrix is presented in Table 14.

Table 14

Factor Correlation Matrix for Males

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1.00			
Factor 2	.34*	1.00		
Factor 3	.31*	.17	1.00	
Factor 4	.32*	.10	.23*	1.00

n = 260. *$p < .05$.

Factor Analysis for Females

A principal components factor analysis of the correlation matrix for females yielded four factors with eigenvalues greater than one. Factor 1 accounted for 34.2% of the total variance, while Factors 1 through 4 combined accounted for 61.2% of the variance. Results of the principal components analysis for females is presented in Table 15.

An oblique rotation of the factor matrix yielded four factors. Examination of the scree plot (Figure 2) confirmed the adequacy of the four-factor solution. The pattern and structure matrices for females produced

Table 15

Principal Components Analysis for Females

Factor	Eigenvalue	Pct of Variance	Cum Pct
1	5.466	34.2	34.2
2	1.548	9.7	43.8
3	1.509	9.4	53.3
4	1.272	8.0	61.2
5	.869	5.4	66.7
6	.823	5.1	71.8
7	.700	4.4	76.2
8	.658	4.1	80.3
9	.596	3.7	84.0
10	.489	3.1	87.1
11	.451	2.8	89.9
12	.369	2.3	92.2
13	.361	2.3	94.5
14	.324	2.0	96.5
15	.302	1.9	98.4
16	.256	1.6	100.0

Note: n = 301.

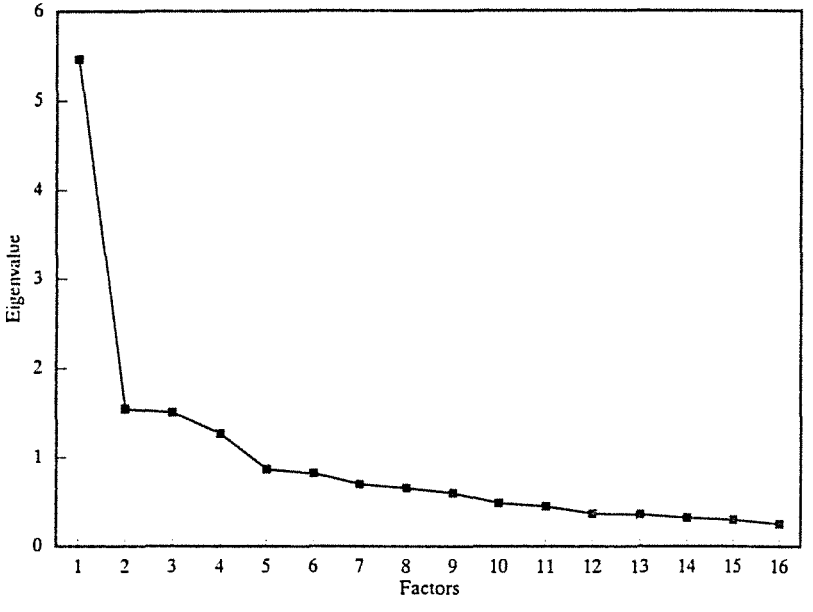

Figure 2. Scree plot produced by principal components analysis for females.

by the oblique rotation method are presented in Tables 16 and 17, respectively.

Factor 1 for females was a bipolar factor that included negative loadings for five of the eight moral weaknesses (Envy, Pride, Greed, Resentment, Laziness) and positive loadings for a sixth moral weakness, Denial, and the moral strength scale of Honesty. Factor 2 included five of the eight moral strength scales (Compassion, Peacemaking, Enthusiasm, Humility, Resourcefulness). Resourcefulness and Humility split between Factor 2 (.42 and .54, respectively) and Factor 3 (.49 and .36, respectively). Factor 3 was a bipolar factor that included positive loadings for the moral strength scales of Sexual Integrity and Resourcefulness and a negative loading for the moral weakness scale of Lust. Finally, Factor 4 was also a bipolar factor that included a positive loading for Gluttony and a negative loading for Physical Fitness.

Table 16

Pattern Matrix for Females

	Factors			
Subscale	1	2	3	4
Envy	-.827	-.055	.004	.011
Vanity	-.776	.184	.121	-.064
Greed	-.704	-.088	-.174	-.286
Resentment	-.618	-.266	-.052	.114
Laziness	-.595	-.136	.056	.201
Denial	.569	.010	.141	-.235
Honesty	.539	.200	.213	-.245
Compassion	-.053	.785	-.069	.000
Peacemaking	.127	.706	-.035	.022
Enthusiasm	.073	.597	-.153	-.332
Humility	.000	.543	.367	-.022
Sexual Integr.	-.105	-.011	.883	-.071
Lust	-.131	.180	-.776	.126
Resourcefulness	.101	.424	.495	.273
Physical Fitn.	-.080	.094	.056	-.848
Gluttony	-.217	.017	-.144	.711

Note: n = 301.

Table 17

Structure Matrix for Females

	Factors			
Subscale	1	2	3	4
Envy	-.845	-.300	-.237	.205
Resentment	-.736	-.485	-.295	.310
Greed	-.715	-.278	-.365	-.098
Honesty	.711	.460	.429	-.423
Pride	-.674	-.001	-.042	.058
Laziness	-.664	-.340	-.156	.356
Denial	.663	.260	.320	-.375
Compassion	.158	.753	.101	-.144
Peacemaking	.320	.731	.164	-.149
Enthusiasm	.280	.652	.036	-.459
Humility	.267	.635	.498	-.166
Sexual Integr.	.150	.181	.857	-.120
Lust	-.320	-.068	-.780	.183
Resourcefulness	.301	.514	.600	.122
Physical Fitn.	.149	.260	.127	-.854
Gluttony	-.409	-.227	-.259	.767

Note: n = 301.

The factor correlation matrix revealed the following significant correlations: Factor 1 was positively related to Factors 2 and 3 (r = .29 and .27, respectively), and inversely related to Factor 4 (r = -.22); and Factor 2 was positively related to Factor 3 (r = .24) and inversely related to Factor 4 (r = -.21). The factor correlation matrix for females is presented in Table 18.

Comparisons Between Factor Structure for Males and Females

Factor analytic results for males and females revealed a high degree of congruence in factor structure. Factor 1 for both sexes contained negative loadings for the moral weakness scales Pride, Envy, Resentment, Greed, and Laziness, and positive loadings for the moral weakness scale Denial and moral strength scale Honesty. Factor 2 for males was similar to Factor 3 for females, containing positive loadings for Sexual Integrity and negative loadings for Lust. Resourcefulness and Humility also demonstrated positive but relatively weaker loadings on Factor 2 (Factor 3, females). Factor 3 for males was similar to Factor 2 for females, containing positive loadings for five of the eight moral strength scales (Compassion,

Table 18

Factor Correlation Matrix for Females

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	1.00			
Factor 2	.29*	1.00		
Factor 3	.27*	.24*	1.00	
Factor 4	-.22*	-.21*	-.08	1.00

n = 301. *p < .05.

Peacemaking, Enthusiasm, Humility, Resourcefulness). Finally, Factor 4 for males was characterized by a high positive loading for Physical Fitness and negative loadings for Gluttony and Laziness. Conversely, Factor 4 for females contained a high negative loading for Physical Fitness and a positive loading for Gluttony only. The variable-factor relationships for males and females are presented in Table 19.

Table 19

Variable-Factor Relationships for Males and Females

Males	Females
Factor 1	**Factor 1**
(-) Vanity	(-) Envy
(-) Envy	(-) Vanity
(-) Resentment	(-) Greed
(-) Greed	(-) Resentment
Denial	(-) Laziness
Honesty	Denial
(-) Laziness*	Honesty
Factor 2	**Factor 3**
Sexual Integrity	Sexual Integrity
(-) Lust	(-) Lust
Resourcefulness*	Resourcefulness*
Humility*	Humility*

(table continues)

Table 19--Continued

Males	Females
Factor 3	Factor 2
Compassion	Compassion
Enthusiasm	Peacemaking
Humility*	Enthusiasm
Peacemaking	Humility*
Resourcefulness*	Resourcefulness*
Factor 4	Factor 4
Physical Fitness	(-) Physical Fitness
(-) Gluttony	Gluttony
(-) Laziness*	

Note: Variables for each factor listed in order of loading magnitude from strongest to weakest.

* = variable loads significantly on two factors.

Summary

A sample of 561 participants was retained following listwise deletion of cases with missing data. Descriptive statistics revealed significant differences in mean scores between males and females on 8 of the 16 subscales. Examination of the correlations between the 16 subscales and the selected demographic variables of age, education, and church attendance revealed many significant correlations for both sexes.

Following satisfactory results from model assumption tests, exploratory principal components factor analysis proceeded utilizing the correlation matrices for males and females. Factors were identified based on the roots (eigenvalues) greater than one criterion, examination of the scree plots, and determination of psychological meaningfulness. An oblique rotation of the initial solution provided the best pattern for interpretation of factors.

For both males and females, four factors with eigenvalues greater than one were extracted and confirmed by examination of the scree plots. Factor 1, which accounted for the largest portion of the variance and which was similar in both male and female samples,

was a bipolar factor containing negative loadings for five of the eight moral weaknesses, a positive loading for the moral strength of Honesty, and a positive loading for the moral weakness of Denial. For males only, the moral weakness of Laziness split between Factors 1 and 4. Factor 2 for males, similar to Factor 3 for females, was a bipolar factor in which Sexual Integrity, Resourcefulness, and Humility loaded positively and Lust loaded negatively. Resourcefulness and Humility split between Factor 2 and 3 for both sexes. Factor 3 for males (Factor 2 for females) contained positive loadings for five of the eight moral strengths (Compassion, Enthusiasm, Humility, Peacemaking, Resourcefulness). As noted, Resourcefulness and Humility split between Factors 2 and 3 for both sexes. Finally, Factor 4 was also a bipolar factor which contained, for males, a positive loading for Physical Fitness and negative loadings for Gluttony and Laziness. For females, Gluttony loaded positively and Physical Fitness negatively. Laziness, which loaded on Factor 1 for females, split between Factor 4 and Factor 1 for males. The results reported in this chapter are further examined and discussed in Chapter 4.

CHAPTER 4

DISCUSSION

The current section will provide discussion and recommendations regarding the results of the exploratory factor analyses and descriptive statistics presented in Chapter 3. First, the characteristics of the sample group and the relationship of those characteristics to the CAS primary subscales will be examined. Second, factors derived from the exploratory factor analyses of the correlation matrices for males and females will be discussed, along with identified gender differences among the factors. Third, an analysis of the Character Assessment Scale with respect to its structural characteristics, psychometric properties, and utility in light of the current findings will be presented. Finally, the results of the current study will be summarized, along with recommendations for future research utilizing the CAS.

Sample Group Demographic Variables

According to Schmidt (1987), approximately 75% of the participants included in the original normative sample of the CAS were obtained following publication of a review article in The Journal of Pastoral Care (1980), which contained an offer for sample protocols that could be administered and returned for analysis. The remaining 25% of the total normative sample was composed of church members and psychotherapy clients in the author's immediate geographic area (Schmidt, 1987).

Examination of the observed frequency distributions of demographic characteristics defining the normative sample calls into question the representativeness of the findings with respect to the general population. In particular, the sample appears to have been a highly homogeneous group, highly religious, above-average in years of education, and with a high proportion of intact marriages.

The highly religious orientation of the normative sample is reflected in the frequency of church attendance reported. For males, 77% indicated that they attended church four or more times monthly, while 71% of the females reported doing so. This was

confirmed by the extremely small percentages of individuals who described their religious faith as "Inactive or Agnostic" (3% males, 1.6% females).

In addition to being highly religious, the sample appears to have been well-educated. Eighty-nine percent of the males and 81% of the females reported having had at least some college experience, while approximately 50% of the males and 32% of the females indicated 18 or more years of education.

The nonrepresentativeness of the sample group, particularly with respect to the dimensions of religiosity and education, suggests that the normative data as well as the findings of this study may not generalize to a less religious or less educated population. Indeed, Schmidt himself has recognized the limitations of the sample and has reported efforts at broadening the sampling base to include more diverse groups (Schmidt, 1987).

A more serious concern is raised by the findings that, at least among the normative sample, there were significant correlations between three of the demographic variables and many of the subscales. These relationships, involving the variables (a) age, (b)

education, and (c) frequency of church attendance, were reported in Tables 8 and 9, and will be discussed in some detail here.

The Relationship Between Age and CAS Subscales

Examination of the correlation coefficients between the CAS subscales and age revealed a weak but consistent positive relationship with the moral strength scales and a weak but consistent inverse relationship with the moral weakness scales. In other words, it appears that those individuals in the older age groups demonstrated a higher level of moral character than those in the younger age groups.

Among the observed correlation coefficients between age and CAS subscales, four were significant for males and six were significant for females. These were, for males, Enthusiasm, Laziness, and Envy ($p < .001$) and Resourcefulness ($p < .01$); and for females, Lust and Laziness ($p < .001$), Resourcefulness ($p < .01$), and Sexual Integrity, Resentment, and Envy ($p < .05$). Therefore, the older males in comparison to the younger males were more dedicated to and enthusiastic about work, balanced by an ability to enjoy rest and recreation, more responsible and wise in the use and

investment of resources, and less envious of the accomplishments and successes of others. For females, the older age groups in comparison to the younger age groups showed a stronger tendency towards being responsible and wise in managing material resources, demonstrated more sexual integrity and less sexual immorality, were more energetic and active, were less likely to handle anger maladaptively, and were less envious and jealous of others.

Although the magnitude of correlations was fairly small, the consistency in order of the relationships suggests that the CAS may in part measure developmental constructs as well as trait constructs, at least with respect to those particular subscales demonstrating significant relationships with age. Clearly, the existence of intrapersonal and interpersonal change as a function of development has been well documented among such diverse but morally relevant areas as ego functioning (Erikson, 1974), cognition (Piaget, 1932/1965; Kohlberg, 1976) and faith (Fowler, 1980). Even Hogan (1973) suggested a developmental progression in the personality variables subsumed under his theory of moral character. Thus, that there may be a

developmental aspect to some of the moral constructs measured by the CAS is not altogether surprising.

Perhaps what is most significant for the current discussion, however, is the potential confounding effects of this age-subscale relationship upon the derived factor structure. For example, it may be that the degree of differentiation in personality structure is related to the number of factors necessary to explain test scores. Therefore, with increasing age, as a person's identity becomes more integrated and less differentiated, fewer factors may be necessary to explain the variance in test scores. Conversely, among the younger age groups in which there is likely to be more role diffusion and crises in identity formation (Erikson, 1968), a greater number of factors may be necessary to adequately explain test scores. The number of factors found in the current study may therefore be more representative of an average between the older and younger groups, rather than an accurate derivation of latent constructs accounting for the variance in each age group.

The Relationship Between Education and CAS Subscales

Although not demonstrating the consistency in order of relationships noted with age, a much larger number of the CAS subscales demonstrated significant correlations with number of years of education. For males, eight of the sixteen subscales were significantly correlated with education. Those demonstrating a positive relationship included Enthusiasm, Compassion, Resourcefulness, and Physical Fitness, while those demonstrating an inverse relationship included Sexual Integrity, Honesty, Laziness, and Denial. For females, six of the subscales were significantly related to years of education, all in the negative direction; they were, Laziness, Greed, Humility, Sexual Integrity, Gluttony, and Vanity.

Based on these education-subscale relationships, men in the sample group who had more years of education, relative to those who had fewer years, were more dedicated and enthusiastic about work, more compassionate and caring towards others, more responsible in the wise use of money and resources, more committed to preserving their health, while demonstrating less sexual integrity and less honesty.

Interestingly, for females in the sample group, education did not seem to be significantly related in a positive way with any of the moral strengths, but was inversely related to Sexual Integrity and Humility. Additionally, a higher level of education in females was significantly related to less Laziness, Greed, Gluttony, and Vanity.

The Relationship Between Church Attendance and CAS Subscales

Frequency of church attendance was significantly related to twelve of the sixteen subscales for both males and females. The magnitude of the observed correlations were weak to moderate, ranging from .13 to .41. As with age level, the correlations showed a consistent order, with the moral strength scales correlating positively and the moral weakness scales correlating negatively with frequency of church attendance.

According to Gorsuch (1983), interpretation of factors can be confounded if unique characteristics of the individuals chosen for analysis cause several variables to vary and generate a factor(s). Because of the number of CAS subscales correlating with frequency

of church attendance, it is suggested that the variance in subscale scores may be at least partially attributable to a general religious factor (Gorsuch, 1984), thereby limiting the generalizability of the observed factor structure to nonreligious populations.

The hypothesis that the CAS subscale scores, and thus the observed factor structure, may be related to a general religious factor is supported by (a) the relationship between the CAS and the Shepherd Scale (Elzerman & Boivin, 1987) and the recently reported finding that the Shepherd Scale may be measuring a general religious factor (Bassett et al., 1991), and (b) the studies which have reported significant relationships between frequency of church attendance and several prosocial and moral behaviors. For example, Woodruff (1985), in a study examining the relationship between religiosity and sexual behavior (N = 477) among college students, reported that religiosity, as defined by frequency of church attendance, was a significant predictor of sexual behavior (as effective a predictor as religious orientation). Additionally, Spilka, Hood, and Gorsuch (1985) have reported that religious activity and church attendance have been found to be inversely related to

prejudice, and that traditionally religious people are in general more personally moral than their nonreligious peers.

Unlike other measures which have been found to be related to a general religious factor (Ledbetter, Smith, Vosler-Hunter, & Fischer, 1991), the CAS does not appear to be limited by an attenuated range in variability related to ceiling effects. Examination of the means and standard deviations (Tables 5 and 6) of the 15-item primary subscales (28 items for the Honesty scale) reveals at least two standard deviations to ceiling for all scales. Therefore, even among religiously oriented individuals, the CAS demonstrates an adequate range of variability in scores, lending support for its practical utility with such populations.

Principal Components Analysis

Results of the exploratory factor analyses of the CAS using the normative sample yielded a four-factor solution for both males and females, which accounted for 63.5% and 61.2% of the total variance, respectively. The pattern matrices obtained from the

oblique rotation of the initial statistics revealed quite similar factors for both genders, although several differences were noted. Because of the convergence of factor solutions for males and females, a comprehensive discussion of the components analysis will be presented only for males followed by an examination and discussion of the similarities and differences in factor structure related to gender.

Factor Analytic Results for Males

Principal components analysis of the CAS subscale correlation matrix for males yielded four factors with eigenvalues ≥ 1. Each of the four factors will be examined independently, followed by a discussion of the observed relationships among the four factors.

Factor 1 for Males

Factor 1 accounted for the largest amount of the total variance (37.7%), with an eigenvalue of 6.026. Examination of the pattern matrix yielded by an oblique rotation (Table 12) revealed significant subscale loadings on Factor 1 for six of the eight moral weakness scales (Vanity, Envy, Resentment, Greed, Laziness, and Denial), and the moral strength scale of Honesty. Both Denial and Honesty loaded positively on

Factor 1, while the remaining moral weakness scales loaded negatively, resulting in a bipolar factor. Denial, which measures the tendency of respondents to misrepresent themselves on the test instrument, was expected to be positively related to the Honesty scale, which purportedly measures self-reported honesty in everyday life. Inclusion of the Honesty and Denial scales as a bipolar factor with the five moral weakness scales suggests that, as expected, the more one attempts to deny or minimize moral weaknesses in responding to the scale items, the more honest and less immoral they will appear.

For males, the moral weakness scale Laziness split between Factor 1 and 4, with only a slightly higher loading on Factor 4. When a variable has a high loading on more than one factor, then "the variance of the variable must be subjectively divided for interpretive purposes" (Gorsuch, 1983, p. 210). By examining the pattern of other loadings on each factor, one must determine subjectively what is the most salient loading for the shared variable. Although Laziness could be meaningfully (but weakly) explained by either Factor 1 or 4, it was concluded that inclusion with Factor 1, which contained five of the

remaining seven moral weakness scales, better explains the overall factor structure. Specifically, the inclusion of Laziness with Factor 1 allows for: (a) Factor 1 to contain the majority of moral weakness scales, and (b) Factor 4 to be a "purer" factor that conforms to the original conceptualization of the subtest pairing for Physical Fitness--Gluttony. Therefore, Factor 1 is a bipolar factor containing six of the eight moral weakness scales (or five of the "seven deadly sins"), with five of the six inversely related to the moral strength scale Honesty. The sixth moral weakness scale, Denial, was positively related to Honesty, as anticipated.

An important step in explaining the meaning of a factor is to examine the variable(s) with the highest factor loading(s), giving the greatest weight in understanding and defining the factor to the highest loading variable and proportionately less to the variables with lower factor loadings (Gorsuch, 1983). The scale which loaded most strongly on Factor 1 for males was Vanity, followed by Envy, Resentment, Greed, and Laziness.

Vanity as defined by the author involves the overvaluation of oneself along with the devaluation of

others. Inherent in this conceptualization is a self-protective motive which suggests a lack of respect for the ethical concept of equality among persons. Examination of individual items composing this scale revealed such characteristics as self-centeredness, an unrealistic sense of superiority towards others, devaluation of others, interpersonal defensiveness, excessive independence, and authority conflicts.

Envy, also fundamentally an interpersonal construct that is characterized by egocentrism, involves an excessive preoccupation with what one does not have, particularly in comparison to what others do have. Item analysis of the Envy scale suggests a content domain that includes a propensity towards resentment, anger, and self-pity when confronted with the fortune and prosperity of others.

Greed appears to be a related construct that involves an excessive devotion to material goods at the expense of interpersonal relatedness. Analysis of the individual items of this scale suggests such characteristics as a propensity towards deriving happiness, security, and pleasure from things rather than people, jealousy of others, deception and dishonesty, and a reluctance to give to those in need.

Resentment has been conceptualized by the test author as the tendency to express anger indirectly and/or inappropriately. Again, this variable is inherently interpersonal and reflects an egocentric, self-protective propensity that results in a decrease in emotional, if not physical closeness with others. Item content suggests, in addition to the above characteristics, a lack of forgiveness, a desire for revenge, the holding of grudges, an inability or unwillingness to resolve conflict, and the dyscontrol of anger.

Laziness, which showed the weakest loading on Factor 1, superficially appears to be a predominately intrapersonal dimension and therefore unrelated to the other constructs included with this factor. However, item analysis of this scale suggests an ineffectiveness or lack of mastery in meeting one's needs in life, an excessive dependence on others, depression, and a tendency to avoid personal responsibility. The fear of rejection by others, a withdrawal from life, and a tendency towards blaming others are also revealed in the item content. Moreover, in addition to these explicitly interpersonal characteristics, it seems reasonable to extrapolate from the overall content of

this scale an expected relationship to the other moral weaknesses loading on Factor 1. These more implicit interconnections might include a deficit in self-worth, a need to protect a rather vulnerable self-esteem by being overly prideful or greedy, and a propensity towards feeling envious of and resentful towards those who have achieved some degree of mastery and affluence.

In summary, Factor 1 includes items that are largely interpersonal and which involve excessive self-protectiveness, egocentrism, and hostility towards others, as well as other characteristics that seem to have as their primary impact an emotional and/or physical alienation from others. Even Greed and Laziness, which demonstrated the lowest factor loadings on Factor 1, reveal in addition to an intrapersonal dimension a significant degree of this divisiveness in interpersonal relationships. Based on the overall item content and factor loadings of the variables (subscales) on Factor 1, interpersonal alienation seems to characterize the general thrust of this factor. However, due to the negative loadings for the moral weakness variables on Factor 1, it was determined that a label of Interpersonal Intimacy was most appropriate.

The positive loadings for Denial and Honesty on Factor 1 suggests that the more honest persons are in everyday life, and the more they will deny relatively minor shortcomings in responding to the test items, the higher their reported level of interpersonal intimacy. As discussed in Chapter 2, the Denial scale was devised as a validity measure to minimize social desirability effects. Therefore, high scores on Denial are likely to reflect to some degree an attempt to conceal weaknesses in interpersonal intimacy. However, as Taylor and Brown (1988) have reported, moderate levels of denial have been found to be related to psychological health and by extrapolation, therefore, are not inconsistent with interpersonal intimacy.

Of interest here also is the logical relationship between the Interpersonal Intimacy factor and empathy, the latter having been found to be a significant predictor of morality. Hoffman (1984) has defined empathy as "a vicarious affective response....that is more appropriate to the other's situation than one's own" (p. 285). The congruence between empathy and the content of Factor 1 lends theoretical support for the interpretation of this factor.

Factor 2 for Males

Factor 2 for males, which accounted for 9.6% of the total variance among the subscales, was a bipolar factor that included Sexual Integrity, Resourcefulness, and Humility inversely related to Lust. Sexual Integrity and Lust demonstrated high loadings on Factor 2, while Resourcefulness actually split fairly evenly between Factors 2 and 3 and Humility loaded moderately higher on Factor 3.

The logical relationship between Resourcefulness and the two subscales demonstrating high loadings on Factor 2 (Sexual Integrity, Lust) becomes apparent when examining the individual items. Although Resourcefulness includes a predominant focus on the use of material resources, it also captures a consistent dimension of self-discipline and ego strength in its emphasis on delaying gratification for a more distant or greater reward. This capacity for exercising self-control in the service of higher values is also viewed as an important aspect of maintaining sexual integrity.

Although content analysis suggests a logical basis for including Resourcefulness with Factor 2, in the interest of simplifying factor structure and in light of the relatively low factor loading of this variable

(.45), it was decided that Resourcefulness fit better with Factor 3, on which it also loaded at .45. The rationale for this decision is as follows: (a) it allows for Factor 2 to be a "purer" factor that conforms to the original conceptualization of the subscale pairing for Sexual Integrity and Lust, (b) it allows Factor 3 to encompass a majority of the moral strength scales, and (c) it provides a clearer picture of the overall factor structure as composed of a factor containing most of the moral weakness scales, a factor containing most of the moral strength scales, and two split-off factors that include very defined behavioral domains.

Humility, which also split between Factors 2 and 3, is included with Factor 3 due to the higher loading on that factor. Specifically, Humility accounted for approximately 30% of the variance on Factor 3 and only 11% of the variance on Factor 2. Further, inclusion of Humility with Factor 3 allows for a more conceptually clear picture of the overall factor structure as previously discussed.

Factor 2, then, is a bipolar factor which clearly addresses sexual behavior. Sexual Integrity is defined by the test author as the expression of sexuality

within the context of a committed marital relationship, resulting in "emotional and spiritual oneness" (Schmidt, 1980, p. 81). Mutuality in enjoyment of sexual expression and foundational intimacy are emphasized. Conversely, Lust is the pursuit of sexual pleasure as an end in itself, devoid of much of its relational aspects and not limited to matrimonial bonds. Therefore, Factor 2 is viewed as an interpersonal variable that seems to be addressing the issue of whether one's sexual expression is primarily in the service of pleasure or intimacy. The label that seems most appropriate for this factor is Interpersonal Sexual Expression.

Factor 3 for Males

Factor 3, which accounted for 8.9% of the total variance of the sixteen variables, was found to be a unipolar factor containing five of the eight moral strength scales: Compassion, Enthusiasm, Humility, Peacemaking, and Resourcefulness. Resourcefulness and Humility split between Factor 2 and 3 but are included with this factor for the reasons discussed earlier. The remaining moral strength scales (Honesty, Sexual Integrity, and Physical Fitness) each loaded on a separate factor.

Compassion had the highest loading on Factor 3, a scale which reflects a sincere concern and caring for others along with a willingness to make personal sacrifices in the interest of helping those in need. Empathic understanding and, to a lesser extent altruism, seem to be essential elements of this dimension. In fact, many of the individual items on the Compassion scale seem to be directly measuring empathy (e.g., "When someone I know is happy, I feel almost as much joy myself in response" [T]; "I have a lot of trouble putting myself in another's place, and feeling what that person must feel in the situation" [F]).

Empathy has been frequently identified in the literature as related to morality (Eisenberg & Miller, 1987; Hoffman, 1982, 1984; Peck & Havighurst, 1960) and is one of Hogan's (1973) primary dimensions of moral character. Given the strong empathy component of the Compassion subscale and the fact that Compassion demonstrated the highest loading on Factor 3, empathy is considered to be a core attribute of this factor. Additionally, the strong empathy component in Factor 3 is consistent with the positive relationship (.30)

between this factor and Factor 1, Interpersonal Intimacy, as reported in Table 14.

The second highest loading variable on Factor 3 for males was Enthusiasm (.67). Examination of the individual items of this scale suggest qualities such as optimism, steadfastness, "willpower", independence, self-discipline, and the capacity for both working hard and enjoying relaxation. Interestingly, this scale also includes items which reflect a strong interpersonal component, such as helping and being responsible to others, and being able to empathically understand the needs of others. In addition to this, Factor 3, then, overlaps with Compassion and includes a dimension characterized as an enthusiastic work/productivity ethic, particularly as it enables charitable behavior.

Other variables demonstrating significant but lower loadings on Factor 3 included Humility (.55), Peacemaking (.48), and Resourcefulness (.44). Examination of the individual items on these scales reveals a strong interpersonal component imbedded in all three moral strengths. For Humility, in addition to qualities such as the ability to laugh at oneself, the capacity for accepting criticism from others, and

the willingness to learn from others, there were those that reflected a willingness to make others happy, to serve others, and to respect authority figures. Peacemaking addressed issues such as forgiveness, conflict resolution, patience towards others, and the direct but controlled expression of anger. Finally, Resourcefulness items tended to focus on the wise and disciplined use of money and resources, the ability to delay gratification in the service of higher or future gains, contentment with one's possessions, and giving to others in need.

Factor 3 is characterized as a general moral strength dimension that is positively related to (r = .31), but relatively independent of, Factor 1 (Interpersonal Intimacy), which contains negative loadings for five of the eight moral weakness scales. Compassion, Peacemaking, and Humility are clearly interpersonal qualities that can be described as prosocial in nature. While less so, enthusiasm and resourcefulness are also viewed as prosocial in that work, investment of time and energy, and the wise use of resources are all in the service of social needs, and allow for the helping, giving, and supporting of others. Overall, these characteristics are

representative of a prosocial orientation. Eisenberg (1982) has described prosocial behavior as any voluntary, intentional act that is beneficial to others. Therefore, Factor 3 is given the label Interpersonal Caring.

Factor 4 For Males

Factor 4, as with Factor 2, demonstrates much conceptual clarity in its factor loadings, which includes the Physical Fitness and Gluttony subscales, along with Laziness. The inverse relationship of the two variables with the largest loadings (Physical Fitness, Gluttony) indicates a bipolar factor structure that conforms to the original conceptualization of the subtest pair proposed by the test author. Laziness, which demonstrated a weak loading on this factor (.470) relative to Physical Fitness and Gluttony (.853 and -.675, respectively), was included with Factor 1 for the purpose of conceptual clarity, as previously discussed, although it loaded slightly less on Factor 1 (.468).

The variable which loaded positively on Factor 4, and which had the highest loading on this factor, was Physical Fitness. An item analysis of this subscale revealed values pertaining to exercise, health, and

physical well-being, maintenance of an attractive appearance, proper diet, and the avoidance of excessive indulgence in food, alcohol, or drugs.

Interestingly, many of the items from the Gluttony subscale evidence much conceptual overlap with Physical Fitness, which lends support to a single bipolar factor solution. Item content included overeating, excessive use of alcohol and/or drugs, poor weight control, and the use of food, alcohol, or drugs to avoid uncomfortable feelings. Unlike many of the other subscales which are more abstract and conceptually complex, both Physical Fitness and Gluttony encompass a fairly specific, behaviorally defined group of items, and are clearly measuring values related to maintaining physical health. The label given this factor, therefore, is Personal Health Maintenance.

Relationships Among the Four Factors for Males

Examination of the factor correlation matrix (Table 14) revealed a modest positive relationship between Factor 1 and Factors 2 through 4. This would suggest that, although each is representative of a discrete construct, all of the factors are related and might be reflecting a general moral factor.

The discovery of higher-order general factors have been reported in a variety of subdisciplines in psychology, including intelligence (Cohen, 1959), self-esteem (Roffe, 1981), and religion (Gorsuch, 1984). The existence of a general morality factor has been reported as early as 1934 by Maller in his reanalysis of the Hartshorne and May data. Maller (1934) defined this general factor as "the readiness to forego an immediate gain for the sake of a remote but greater gain" (p. 101). Subsequent researchers who have identified a general moral factor have included Rettig and Pasamanick (cited in Pittel & Mendelsohn, 1966), Burton (1963), Rushton (1980), Hill and Swanson (1985), and Tooke and Ickes (1988).

Rettig and Pasamanick (cited in Pittel & Mendelsohn, 1966), in a factor analysis of an inventory of moral values, found a large general factor along with a number of content-specific dimensions. Burton (1963), in a factor analysis of the Hartshorne and May data, found a large general factor which he described as an honesty factor. Rushton (1980) agreed with Burton's findings but, drawing from his own research, focussed on the label "altruism". Hill and Swanson's factor analysis of their Ethical Behavior Rating Scale

found a general factor which they labeled Personal Moral Character. Finally, in a factor analytic study of the Conventional Morality Scale, Tooke and Ickes (1988) reported finding a single factor, giving it the label "adherence to conventional morality". Based upon the observed relationships among the four factors in this study, and particularly regarding the clear differentiation between moral strength and moral weakness constructs, a general moral factor is hypothesized, that might be conceptualized as a "quality of interpersonal relationship factor".

Factor Analytic Results for Females

As reported earlier, the similarities between the factor structure for males and females were quite substantial. Therefore, examination of Factors 1 through 4 for females will only address the specific points of departure and relevant similarities with respect to the factors previously described for the males-only group.

Factor 1 for Females

Two primary differences between males and females were observed on Factor 1, Interpersonal Intimacy. First, the highest and second highest loading factors

were reversed for the two sexes. For females, Envy had the highest factor loading on Factor 1 (.83), followed by Vanity (.77), while for males the highest loading factor was Vanity (.88) followed by Envy (.79). Because the greatest determination of factor significance and meaning is typically derived from the variable content with the highest factor loading (and proportionately less so for the remaining variables) (Gorsuch, 1983; Kim & Mueller, 1978), it may be concluded that males and females differ somewhat in how Interpersonal Intimacy is impeded. Specifically, males are viewed as more likely to experience interpersonal alienation by maintaining feelings of superiority over others, by being stubborn and opinionated, and by a defensive independence. Females, on the other hand, may be more likely to experience alienation from others by comparing themselves with others, being jealous and envious of what others have in comparison to themselves, and expressing passive hostility towards others by "gossiping" about them.

This variation in expression of Factor 1 between males and females is consistent with the differences in mean scores discussed earlier and may also be reflective of a general difference in gender role

values cited by Gilligan (1982) and others (DeWolfe, Jackson, & Winterberger, 1988; Hoffman, 1977; Lifton, 1985). Gilligan (1982), who has proposed a principal of caring as a complementary ethical principal to Kohlberg's ethic of justice, cites as her justification for doing so the observed difference between males and females associated with gender roles. Specifically, Gilligan has described justice reasoning as more consistent with the instrumental, independent, and formal abstract thought characterizing a masculine sex-role, while her hypothesized ethic of caring is more related to the feminine sex-role qualities of expression, attachment, and narrative reasoning. It follows that Vanity, as previously defined, would be more associated with a masculine role, while Envy would be more associated with a feminine role.

Lifton (1985) has reported on a frequent finding in the literature on Kohlberg's moral development theory in which females seem to prefer stage 3 reasoning (desire for social approval, acceptance) over stage 4 reasoning (obedience to authority, duty, maintaining social order), and visa versa for males. Again, Envy seems more consistent with the feminine role in its focus on social approval/acceptance, while

Vanity seems more consistent with the masculine role which emphasizes authority, power, and social order.

Finally, with respect to the gender differences found among Hogan's moral character dimensions reported by DeWolfe, Jackson, & Winterberger (1988), high autonomy and role-taking empathy seems more consistent with Vanity and the instrumental role for males, while higher socialization and emotional empathy seems more congruent with Envy and the expressive female gender role.

The second significant variation observed on Factor 1 was the higher loading for females than males with respect to the variable Laziness. Laziness loaded on the first factor at -.595 for females, while for males, this variable split between Factors 1 and 4, loading at -.468 on the first factor and at -.470 on the fourth factor. Females had a factor loading for Laziness on Factor 4 of only .201. This suggests that for females, the absense of low self-esteem, depression, depleted energy, and a feeling of not being appreciated by others is more related to Interpersonal Intimacy than Personal Health Maintenance, while for males such characteristics are associated with both factors almost equally.

Factor 2 for Females

Factor 2 for females was similar to Factor 3 for males, which was labeled Interpersonal Caring. The difference in order of extraction resulted from slight variations in eigenvalues and is not considered significant. Examination of the factor loadings for Interpersonal Caring revealed two significant differences between males and females. First, Peacemaking loaded significantly higher on this factor for females (.71) than for males (.49). Alternatively, Peacemaking accounted for nearly 50% of the shared variance of this factor for females, while accounting for only 23% of the shared variance for males. In other words, females may be more likely than males to exhibit more efforts at resolving conflicts, more willingness to forgive, and more openness to apologizing when wrong. Here again, the hypothesized differences in gender roles (caring-expressive versus justice-instrumental) seem to be reflected in that females may be motivated towards reconciliation and equality, whereas males may be more inhibited in seeking reconciliation by vanity and an emphasis on a principle of equity.

The second important gender-related difference on the Interpersonal Caring factor was a slightly higher factor loading for males (.670) than females (.597) with respect to the variable Enthusiasm. Although the difference is small (accounting for 45% and 36% of the shared variance for males and females, respectively) and likely to have little practical significance, it is considered noteworthy because of its consistency with the gender differences identified earlier. Specifically, whereas females are more likely to exhibit prosocial morality through attachment-oriented behaviors (e.g., Peacemaking), males are more likely to do so through a devotion to hard work and a commitment to providing materially for others (e.g., Enthusiasm).

Factor 3 for Females

Factor 3 for females was virtually identical to Factor 2 for males, labeled Interpersonal Sexual Expression. Again, the difference in the order of extraction of the factors for males and females was a result of slight variations in the eigenvalues for the two factors and is not considered a significant indicator of gender difference. The Interpersonal Sexual Expression factor can be said to demonstrate congruence across gender.

Factor 4 for Females

Factor 4, Personal Health Maintenance, was similar for both males and females with two exceptions. First, Laziness, which loaded more on Factor 1 for females (-.595), split for males between Factors 1 (-.468) and 4 (-.470). This indicates a greater propensity among males for depleted energy, feelings of worthlessness, fears of failure and rejection, and a sense of giving up to be related to physical well-being than to interpersonal distance. In other words, discouraged men are likely to have poor health maintenance and poor interpersonal relationships, while discouraged females are likely to show primarily the latter. Second, the reverse in the direction of factor loadings for females (Gluttony loaded positively, Physical Fitness negatively) suggests that this factor, although similar to males, is defined more by Gluttony than Physical Fitness (and visa versa for males).

Relationships Among the Four Factors for Females

Examination of the factor correlation matrix for females (Table 18) reveals significant correlations among the four factors, as did the factor matrix for males. However, for the female sample, Factor 4 was inversely related to Factor 1, whereas for males, a

positive relationship was observed. What is clear is that for both sexes, Factors 2-4 covary significantly with the largest factor, Factor 1, but that Factor 4, Personal Health Maintenance, seems to relate to the other factors differently for females than for males.

Examining the factor pattern matrices for both sexes reveals a difference in the order of the loadings on Factor 4. For males, the variable loading positively on the factor was Physical Fitness, while Gluttony had a negative loading. Conversely, for females, Gluttony loaded positively while Physical Fitness loaded negatively. Thus, although Physical Fitness better defines Factor 4 for males, and Gluttony for females, both are correlated with Factor 1, Interpersonal Intimacy. Alternatively, males who experience higher levels of Interpersonal Intimacy also experience greater Personal Health Maintenance, while for females, a higher level of Interpersonal Intimacy is inversely related to Gluttony.

Summary of the Principal Components Analysis of the CAS

A scale level exploratory factor analysis (principal components analysis) of the Character Assessment Scale utilizing the normative sample yielded

a four-factor solution for both males and females. The factors were labeled Interpersonal Intimacy (Factor 1), Interpersonal Sexual Expression (Factor 2, males; Factor 3, females), Interpersonal Caring (Factor 3, males; Factor 2, females), and Personal Health Maintenance (Factor 4). Overall, the factor structures for males and females were highly congruent. Several significant differences were found that were consistent with the variations in gender roles reported in the literature. The labeled factor-variable relationships for males and females are presented in Table 20.

Examination of the Current Utility of the CAS

The current study examined the construct validity of the CAS with respect to its factorial structure. Factor analysis provides important information relevant to the ongoing process of establishing the psychometric properties of a scale. Prior to summarizing the factor analytic results, a more thorough examination and analysis of the properties of the CAS will be presented, including an assessment of its strengths and weaknesses.

Table 20

Labeled Variable-Factor Relationships for Males and Females

Interpersonal Intimacy	
Males (Factor 1)	Females (Factor 1)
(-) Vanity	(-) Envy
(-) Envy	(-) Vanity
(-) Resentment	(-) Greed
(-) Greed	(-) Resentment
Denial	(-) Laziness
Honesty	Denial
(-) Laziness*	Honesty

Interpersonal Sexual Expression	
Males (Factor 2)	Females (Factor 3)
Sexual Integrity	Sexual Integrity
(-) Lust	(-) Lust
Resourcefulness*	Resourcefulness*
Humility*	Humility*

(table continues)

Table 20--Continued

Interpersonal Caring	
Males (Factor 3)	Females (Factor 2)
Compassion	Compassion
Enthusiasm	Peacemaking
Humility*	Enthusiasm
Peacemaking	Humility*
Resourcefulness*	Resourcefulness*
Personal Health Maintenance	
Males (Factor 4)	Females (Factor 4)
Physical Fitness	(-) Physical Fitness
(-) Gluttony	Gluttony
(-) Laziness*	

Note: Variables for each factor listed in order of loading magnitude from strongest to weakest.

* = variable loads significantly on two factors.

Characteristics of the CAS in Support of its Current Utility

The current literature on morality has revealed an increasing interest in the development of instruments that measure individual differences in moral constructs. The Character Assessment Scale evidences a number of positive characteristics that would commend its usefulness and support further validation studies of its psychometric properties. Several of its strengths are:

1. The CAS addresses many of the criticisms of earlier morality scales, including (a) the use of objective rather than subjective scoring (Pittel & Mendelsohn, 1966), (b) the use of real-life situations rather than abstract moral dilemmas (Shelton & McAdams, 1990), (c) the use of a broad range of moral areas rather than just one or two (e.g., sex, aggression) (Pittel & Mendelsohn, 1966; Tooke & Ickes, 1988), and (d) the utilization of conventional psychological procedures for scale construction and preliminary validation.

2. The CAS provides an adequate sampling of each behavioral or trait domain, rather than attempting to

utilize single items (Hogan & Nicholson, 1988; Pittel & Mendelsohn, 1966).

3. The CAS, with a few exceptions, contains individual items which concentrate on the interpersonal and behavioral dimensions of morality and avoid religiously-oriented terminology, allowing for the scale's usefulness with a broad range of populations.

4. The CAS was developed from a set of specific moral constructs that have a long historical tradition in moral philosophy and orthodox religion (Lyman, 1978) and which have been affirmed as valid constructs by some individuals in the social sciences as well (Menninger, 1973; Shelton & McAdams, 1990; Tooke & Ickes, 1988).

5. Many of the moral values reflected in the CAS have been recognized by mental health professionals as consistent with mental health (Bergin, 1991).

6. The CAS focuses on the content of moral behaviors rather than exclusively on the process of moral decision-making. A number of authors in morality research have emphasized the ultimate importance of actual conduct in any theory of morality (Blasi, 1980; Haan, 1978; Hill & Swanson, 1985; Turiel, 1990).

7. The CAS attempts to control for the confounding effects of social desirability response styles by incorporating a validity scale which can serve as a suppressor factor when subtracted from the eight primary scales.

8. Unlike many scales consistent with a general religious factor, the CAS demonstrates an adequate ceiling with respect to the variability in moral strength subtest scores. However, there may be "floor" problems among the moral weakness scales, some of which demonstrate approximately one and and a half standard deviations to floor.

Weaknesses Limiting the Current Utility of the CAS

Observed weaknesses of the CAS will be discussed in the following sections: (a) limitations related to form, (b) limitations related to structure, and (c) psychometric limitations, particularly in light of the current findings.

Limitations in Form

Criticisms of the form or layout of the CAS test protocol are twofold. First, introductory statements on page one of the test booklet contain information

that may seriously affect a test taker's response set. Of particular importance are the provision of the labels for the eight primary scales and the introductory statement, "This test....is based on the belief that a healthy personality reflects a balanced respect and concern for yourself and other people".

In having access to the primary scale labels prior to taking the test, respondents are provided with a cognitive classificatory schema for keying individual items prior to answering them. A respondent highly anxious about sexuality, for example, may err in classifying an item or respond to the perceived label rather than to the actual content of the item.

Perhaps the most serious demand characteristic (Nunnally, 1978) in the CAS protocol form is found in the introductory statement quoted earlier. In this statement, the respondent is given a brief summary of the author's theory on what constitutes a healthy personality. Although it may be argued that such a broad definition of mental health is common knowledge, its delineation prior to answering questions on personal morality may introduce an acquiescence response style in which an individual, wanting to agree with the definition, attempts to reflect that agreement

in his or her responses. Conversely, a respondent wishing to present a deviant response set is provided with clear criteria upon which to base his or her answers.

Limitations of the CAS format that are believed to be less significant than the demand characteristics described above but are nonetheless worthy of mention are its length and hand-scoring procedures. Although adequate convergent and divergent content saturation for each subscale is recommended in test construction (Wiggins, 1973), the apparent overlap in content observed among many of the CAS items suggests that significantly fewer items might as effectively discriminate among individuals and increase efficiency.

The recommended hand scoring procedures are thoroughly described in the CAS manual (Schmidt, 1987) but are cumbersome and time-consuming. Alternative scoring procedures such as scoring templates or computer-assisted scoring would significantly improve the useability of the instrument, and may also reduce scoring errors (In fact, a scoring program for the CAS is reported to be now available [Schmidt, 1987]).

Limitations in Structure

Limitations of the CAS with regard to its substantive components (Hogan & Nicholson, 1988; Wiggins, 1973) are threefold. First, the internal consistency of four of the sixteen subscales (Humility, Compassion, Resourcefulness, Vanity) are sufficiently weak to warrant an item analysis and revision of those four subscales (Table 3). Second, the hypothesized inverse relationship between matched-pairs of subscales (moral strength-moral weakness) is insufficiently supported by interscale correlations for two of the complimentary pairs (Humility--Vanity, Compassion--Envy). It is interesting that of the four subscales making up these two matched pairs, three of them are included in the four subscales demonstrating low coefficient alphas. Therefore, item revision on those four scales may significantly improve the correlation magnitudes for the two matched pairs.

Finally, an examination of the individual items on the CAS revealed several problems in item construction. First, some items are attitudinal in content rather than trait-oriented. Examples of such items include the following: "Every human being can grow to be a positive, unselfish person, regardless of intelligence,

health, or present moral habits"; "Adultery is stealing--it's taking what belongs to someone else". Although attitudes and values are important components in morality, it has been demonstrated that moral conduct cannot be accurately deduced from attitudes or beliefs. To put it another way, a person's belief about a particular moral issue says very little about how that person will actually behave when confronted with that moral choice.

Secondly, some of the individual items are poorly worded in that they are ambiguous or contain double-barreled statements (Henerson, Morris, & Fitz-Gibbon, 1987; Likert, 1967). Following are several examples of such items: "It is not a high priority now for me to have good health in my old age, because my personal habits reflect this lack of concern"; "Guilt is usually a constructive criticism for me, and so I react fairly well to criticism"; "I am an energetic and alert person, because I have been careful about putting food, alcohol and drugs into my body".

Limitations in Psychometric Properties

The current utility of the CAS is limited by: (a) the lack of representativeness in the normative sample, (b) apparent correlations between many of the subscales

and several of the demographic variables, (c) the absence of support from the current factor analytic results for the sixteen trait scales, and (d) the lack of criterion-related validity and certain types of construct validity (e.g., correlations with theoretically consistent tests, experimental intervention [Anastasi, 1988]).

The frequency distributions of demographic variables (Tables 1 and 2) reveal the normative sample to have been highly biased with respect to frequency of religious activity and number of years of education completed. Therefore, the CAS is limited in its usefulness for less religious and less educated populations. The test author has expressed interest in broadening the normative data to incorporate a more representative sample.

What is considered to be a more serious concern regarding the demographic variables characterizing the normative sample are the observed correlations between many of the subscales and age, years of education, and frequency of church attendance. Although the magnitude of correlations were not large and, except for frequency of church attendance, affected only a portion of the sixteen scales, such trends may reflect a

significant variation from the scale's original conceptualization as a measure of moral traits. In particular, some of the individual scales may be actually measuring developmental constructs.

The hypothesized structure of the CAS as a scale which measures sixteen discrete moral traits is not supported by the current factor analytic results. For both males and females, a four-factor solution accounted for a large proportion of the total variance of the subscales. The findings supported the hypothesized differences among the scales regarding the valence of the moral constructs. Specifically, there appears to be a moral weakness factor, a moral strength factor, and two bipolar factors that conform to the matched pairs of strengths and weaknesses (Sexual Integrity-Lust; Physical Fitness-Gluttony).

Finally, the usefulness of the CAS is limited due to the lack of adequate validation studies. According to Hogan and Nicholson (1988), the primary issue underlying shortcomings in assessment-based personality research involves construct validity. The authors further argue that all validity is fundamentally construct validity. Of the various techniques for establishing construct validity delineated by Anastasi

(1988) (correlations with developmental changes, correlations with other tests, internal consistency, convergent/divergent discrimination, experimental intervention, factor analysis), only internal consistency and convergent discrimination (one study) had been examined prior to this study. Additionally, two studies have looked at known group differences, another significant but less widely recognized construct validation approach (Hogan & Nicholson, 1988). While the current factor analysis, which also examined developmental issues, adds to the understanding of the construct validity of the CAS, further studies utilizing diverse approaches are needed.

Summary

A review of the literature reveals a revitalized interest in the domain of morality and related variables. Social scientists from a variety of theoretical perspectives have attempted to define and measure relevant morality constructs, among which have been those representative of a trait/individual differences approach. Earlier studies from the

trait/individual differences orientation have attempted to define and measure morality using broad-based personality variables (Hogan, 1973; Peck & Havighurst, 1960), while more recent attempts have focused on the development of scales based upon specific normative standards of moral conduct (Hill & Swanson, 1985; Lifton, 1985; Shelton & McAdams, 1990; Tooke & Ickes, 1988). The Character Assessment Scale, developed by Schmidt (1981), is based upon conventional values derived from orthodox religion and purports to measure sixteen moral traits: eight moral weaknesses and eight moral strengths.

The Character Assessment Scale has not undergone the rigorous, progressive process of establishing its validity beyond some very preliminary findings. The current study, which examined the factorial validity of the CAS utilizing the normative sample, is viewed as an important step in the process of evaluating the psychometric properties of the scale.

In determining the research design for this study, a decision was made to control for any confounding effects related to gender differences by conducting separate factor analysis for males and females. Dissimilarity in morality constructs attributed to

gender roles has been found among varied theoretical perspectives and has been reported by Schmidt (1987) involving differences in CAS mean scores. Although gender differences in mean scores were confirmed in reanalysis of the data, the factor analytic results revealed only slight variations in factor structure.

Utilizing a principal components analysis with oblique rotation, a four-factor solution was found to best explain the factor structure based upon the amount of variance accounted for by each factor, examination of the scree plots, and analysis of the psychological meaningfulness of each factor.

Factor 1, which accounted for 37.7% of the total variance for males and 34.2% for females, was a bipolar factor containing negative loadings for five of the eight moral weakness subscales (Vanity, Envy, Resentment, Greed, Laziness) and positive loadings for both the moral weakness of Denial and the moral strength of Honesty. Denial, a moral weakness scale loading on the first factor, was inversely related to the other five moral weakness scales as predicted. Analysis of the individual items from the subscales loading on Factor 1 suggested that the factor was an interpersonal construct involving the absense of

emotional, psychological, and physical alienation, denial of relatively minor negative qualities, and honesty towards others. Therefore, it was given the label Interpersonal Intimacy.

Differences in the factor loadings for the Vanity and Envy subscales on Factor 1 for males and females suggest some variation in expression of this factor related to gender. Specifically, males may be more likely to experience interpersonal alienation by devaluing others, overvaluing themselves, being opinionated and self-centered, and maintaining an excessive independence of others. Females may be more likely to experience interpersonal alienation through low self-esteem, envy, jealousy, self-pity, or resentment generated by self-other comparisons.

Factor 2 for males was similar to Factor 3 for females, with the difference in order of extraction involving only a slight variation in the percentage of variance accounted for by each factor (9.6% and 9.7%, respectively). Factor 2 (Factor 3 for females) was a bipolar factor in which the moral strength of Sexual Integrity was inversely related to the moral weakness of Lust. Analysis of individual items for these two scales reveals a very circumscribed domain of behavior

involving sexuality and whether or not it is expressed within or outside of a committed relationship. A core issue among many of the items of the two subscales is whether one's sexual behavior is primarily in the service of pleasure or intimacy. Factor 2 was given the label Interpersonal Sexual Expression.

Factor 3 for males was similar to Factor 2 for females, which accounted for 8.9% and 9.4% of the total variance, respectively. This factor was unipolar and contained five of the eight moral strength scales, excluding Honesty, Sexual Integrity, and Physical Fitness, each of which loaded on separate factors. Analysis of the individual item content for each of these subscales again suggested a predominately interpersonal dimension, here characterized by empathy, caring, being responsive to the needs of others, having a respect for the worth and dignity of others, and a willingness to make sacrifices to assist those in need. These qualities in many ways conform to the literature on prosocial morality.

Factor 3 (Factor 2, females) was similar for both sexes except for the factor loadings for Peacemaking and Enthusiasm. Peacemaking loaded higher for females than for males, while the reverse was true for

Enthusiasm (differences were less extreme for Enthusiasm). In general, these findings suggest that females are more likely than males to express prosocial behavior through such activities as seeking reconciliation, apologizing for wrongdoing, or forgiving others. Males, on the other hand, are more likely than females to express prosocial behavior through the enthusiastic commitment to work, exercising self-discipline in accomplishing tasks, and giving of resources to help those in need. Based on the congruence of this factor with prosocial behavior, it was given the label Interpersonal Caring.

Factor 4, similar for males and females, accounted for 7.3% and 8.0% of the total variance, respectively. Evidencing a bipolar structure in which the moral strength of Physical Fitness was inversely related to the moral weakness of Gluttony, Factor 4 was found to conform to the original subscale pairing of the CAS. Examination of the individual items making up these two scales revealed a great deal of conceptual overlap in content, which was found to contain many behaviors typically associated with physical health: e.g., proper diet, exercise, and the avoidance of the

excessive use of drugs, alcohol, or food. Factor 4 was given the label Personal Health Maintenance.

Examination of the relationship among the four factors revealed moderate but consistent positive correlations between the larger Factor 1 and the remaining three factors. The only variation in this was Factor 4 for females, which was found to be inversely related to Factor 1 (-.22) due to being defined by the negative attribute of gluttony rather than the positive attribute of physical fitness. It was concluded that all of the factors are discrete constructs but likely covary with one another to a modest degree. One possible explanation advanced for this covariant structure is that it represents the seemingly ubiquitous general factor that has been reported in the literature on morality and other domains.

According to Hogan (1982), personality can usually be explained by two to six factors. The observed factor structure for the CAS conforms to this hypothesis. In general, the factor analytic results for the CAS support the existence of a moral weakness and a moral strength factor, which are independent rather than bipolar constructs, and two separate

bipolar factors reflecting sexual behavior and health maintenance. The bipolar structure of these latter two factors conforms to their original conceptualization. It is believed that the splitting off of these two factors from the moral strength and moral weakness factors was largely attributable to the greater conceptual clarity of the sexuality and physical fitness domains and their more circumscribed, less abstract behavioral focus relative to the other subscales.

Recommendations for Future Research with the CAS

1. It is recommended that research utilizing the CAS be conducted with a broad range of samples, particularly those who are less educated and less religiously active, for the purpose of establishing more representative normative data.

2. Further factor analytic studies utilizing the CAS are recommended. In particular, examining the factor structure while controlling for the possible effects related to age, education, and church attendance is suggested. Additionally, an item level factor analysis is needed to examine the variance

attributable to individual items, to assist in streamlining the scale by eliminating items demonstrating redundancy, and to address the low internal consistencies for some subscales. Finally, a confirmatory factor analysis utilizing the factor structure obtained in the current study is recommended.

3. Further construct validation studies with the CAS employing diverse psychometric procedures such as convergent/divergent discrimination (Campbell & Fiske, 1959) or examining personological correlates of test performance (Hogan & Nicholson, 1988) are strongly recommended. For example, the CAS could be included in a study with one or more of the morality instruments described in Chapter 2 to determine the nature of the relationship among the scales and whether similar constructs are being measured.

4. Finally, scale revision is recommended to address the following limitations: (a) low coefficient alphas for four of the sixteen subscales, (b) inadequate inverse correlation magnitudes for two of the eight paired subscales, (c) possible demand characteristics in the instructions printed on the test protocol, and (d) ambiguous or double-barreled content observed in a number of the individual items.

Based upon the results of this study and the previously described limitations of the CAS, its current practical utility is believed to be primarily limited to research applications. Support for continued studies utilizing the scale includes its clear differentiation between moral strength and moral weakness constructs, its adequate ceiling level, its adequate reliability estimates, and the consistency of the findings with other morality research regarding gender differences. Further, the current evidence suggests that the CAS is a promising candidate to fulfill the previously reported need in morality research for a broad-based, trait-related measure of moral character.

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Appendix A

Correlation Matrices for Males

Variable Labels Used in Correlation Matrices

Label	Variable
HUMIL	Humility
COMPA	Compassion
PEACE	Peacemaking
RESOU	Resourcefulness
ENTHU	Enthusiasm
SEXEN	Sexual Integrity
PHYSI	Physical Fitness
GLUTT	Gluttony
LUST	Lust
LAZY	Laziness
GREED	Greed
RESEN	Resentment
ENVY	Envy
PRIDE	Vanity
DENIA	Denial
HONES	Honesty

Correlation Matrices for Males

	HUMIL	COMPA	PEACE	RESOU	ENTHU	SEXEN
HUMIL	1.0000	.4291	.4549	.4902	.2996	.4048
COMPA	.4291	1.0000	.4006	.3140	.4049	.1478
PEACE	.4549	.4006	1.0000	.4075	.3834	.2681
RESOU	.4902	.3140	.4075	1.0000	.3221	.4121
ENTHU	.2996	.4049	.3834	.3221	1.0000	-.0125
SEXEN	.4048	.1478	.2681	.4121	-.0125	1.0000
PHYSI	.1498	.1263	.2968	.2531	.3781	.1179
GLUTT	-.1587	-.0946	-.3402	-.1701	-.1590	-.1568
LUST	-.3387	-.1945	-.3292	-.3985	-.1055	-.6349
LAZY	-.2483	-.1870	-.3736	-.2814	-.5281	-.1016
GREED	-.3283	-.0932	-.3043	-.3965	-.1337	-.3108
RESEN	-.4233	-.2575	-.5477	-.3590	-.2717	-.2540
ENVY	-.3561	-.2207	-.4215	-.3254	-.2884	-.1500
VANITY	-.3078	-.1352	-.2779	-.2450	-.0806	-.2211
DENIA	.3675	.2427	.2971	.2628	.2146	.2256
HONES	.4749	.3296	.4794	.3551	.3570	.4031

Correlation Matrices for Males

	PHYSI	GLUTT	LUST	LAZY	GREED	RESEN
HUMIL	.1498	-.1587	-.3387	-.2483	-.3283	-.4233
COMPA	.1263	-.0946	-.1945	-.1870	-.0932	-.2575
PEACE	.2968	-.3402	-.3292	-.3736	-.3043	-.5477
RESOU	.2531	-.1701	-.3985	-.2814	-.3965	-.3590
ENTHU	.3781	-.1590	-.1055	-.5281	-.1337	-.2717
SEXEN	.1179	-.1568	-.6349	-.1016	-.3108	-.2540
PHYSI	1.0000	-.4398	-.2015	-.3873	-.1487	-.2904
GLUTT	-.4398	1.0000	.2763	.3674	.3169	.3397
LUST	-.2015	.2763	1.0000	.2711	.3290	.4127
LAZY	-.3873	.3674	.2711	1.0000	.3018	.5066
GREED	-.1487	.3169	.3290	.3018	1.0000	.4495
RESEN	-.2904	.3397	.4127	.5066	.4495	1.0000
ENVY	-.1969	.3324	.2754	.5045	.3925	.6156
VANITY	-.0879	.2836	.2711	.3889	.5310	.5128
DENIA	.2303	-.2888	-.3635	-.3656	-.3291	-.5097
HONES	.3619	-.4747	-.4820	-.5552	-.4742	-.5946

Correlation Matrices for Males

	ENVY	PRIDE	DENIA	HONES
HUMIL	-.3561	-.3078	.3675	.4749
COMPA	-.2207	-.1352	.2427	.3296
PEACE	-.4215	-.2779	.2971	.4794
RESOU	-.3254	-.2450	.2628	.3551
ENTHU	-.2884	-.0806	.2146	.3570
SEXEN	-.1500	-.2211	.2256	.4031
PHYSI	-.1969	-.0879	.2303	.3619
GLUTT	.3324	.2836	-.2888	-.4747
LUST	.2754	.2711	-.3635	-.4820
LAZY	.5045	.3889	-.3656	-.5552
GREED	.3925	.5310	-.3291	-.4742
RESEN	.6156	.5128	-.5097	-.5946
ENVY	1.0000	.4963	-.4728	-.5744
VANITY	.4963	1.0000	-.3903	-.5029
DENIA	-.4728	-.3903	1.0000	.5725
HONES	-.5744	-.5029	.5725	1.0000

Appendix B

Correlation Matrices for Females

Variable Labels Used in Correlation Matrices

Label	Variable
HUMIL	Humility
COMPA	Compassion
PEACE	Peacemaking
RESOU	Resourcefulness
ENTHU	Enthusiasm
SEXEN	Sexual Integrity
PHYSI	Physical Fitness
GLUTT	Gluttony
LUST	Lust
LAZY	Laziness
GREED	Greed
RESEN	Resentment
ENVY	Envy
PRIDE	Vanity
DENIA	Denial
HONES	Honesty

Correlation Matrices for Females

	HUMIL	COMPA	PEACE	RESOU	ENTHU	SEXEN
HUMIL	1.0000	.2553	.4090	.3731	.3294	.3886
COMPA	.2553	1.0000	.3711	.3064	.4268	.0916
PEACE	.4090	.3711	1.0000	.3294	.3023	.1322
RESOU	.3731	.3064	.3294	1.0000	.1536	.3603
ENTHU	.3294	.4268	.3023	.1536	1.0000	.0788
SEXEN	.3886	.0916	.1322	.3603	.0788	1.0000
PHYSI	.1532	.1311	.1944	.0675	.3134	.1062
GLUTT	-.1438	-.1905	-.2137	-.1949	-.2539	-.1327
LUST	-.2708	-.0963	-.1216	-.3124	-.1157	-.5330
LAZY	-.2404	-.2007	-.2099	-.1753	-.3995	-.1273
GREED	-.1973	-.1809	-.2275	-.4745	-.1448	-.1643
RESEN	-.3337	-.2437	-.4596	-.3246	-.3457	-.1676
ENVY	-.2567	-.1493	-.2725	-.2354	-.3038	-.1244
PRIDE	-.0988	-.0479	-.1309	-.0591	-.0620	-.0170
DENIA	.3252	.1439	.2531	.2158	.2714	.1631
HONES	.4210	.3213	.3227	.3009	.3846	.3211

Correlation Matrices for Females

	PHYSI	GLUTT	LUST	LAZY	GREED	RESEN
HUMIL	.1532	-.1438	-.2708	-.2404	-.1973	-.3337
COMPA	.1311	-.1905	-.0963	-.2007	-.1809	-.2437
PEACE	.1944	-.2137	-.1216	-.2099	-.2275	-.4596
RESOU	.0675	-.1949	-.3124	-.1753	-.4745	-.3246
ENTHU	.3134	-.2539	-.1157	-.3995	-.1448	-.3457
SEXEN	.1062	-.1327	-.5330	-.1273	-.1643	-.1676
PHYSI	1.0000	-.5594	-.0831	-.2213	.0317	-.2107
GLUTT	-.5594	1.0000	.2750	.3484	.2359	.3696
LUST	-.0831	.2750	1.0000	.1975	.2832	.3050
LAZY	-.2213	.3484	.1975	1.0000	.4449	.4934
GREED	.0317	.2359	.2832	.4449	1.0000	.4131
RESEN	-.2107	.3696	.3050	.4934	.4131	1.0000
ENVY	-.1196	.2802	.2655	.5268	.5153	.5963
PRIDE	-.0555	.1552	.1315	.2673	.3644	.3042
DENIA	.1935	-.3661	-.2886	-.3061	-.3265	-.5377
HONES	.2894	-.4422	-.3596	-.4390	-.3844	-.5923

Correlation Matrices for Females

	ENVY	PRIDE	DENIA	HONES
HUMIL	-.2567	-.0988	.3252	.4210
COMPA	-.1493	-.0479	.1439	.3213
PEACE	-.2725	-.1309	.2531	.3227
RESOU	-.2354	-.0591	.2158	.3009
ENTHU	-.3038	-.0620	.2714	.3846
SEXEN	-.1244	-.0170	.1631	.3211
PHYSI	-.1196	-.0555	.1935	.2894
GLUTT	.2802	.1552	-.3661	-.4422
LUST	.2655	.1315	-.2886	-.3596
LAZY	.5268	.2673	-.3061	-.4390
GREED	.5153	.3644	-.3265	-.3844
RESEN	.5963	.3042	-.5377	-.5923
ENVY	1.0000	.4175	-.5207	-.6086
PRIDE	.4175	1.0000	-.3001	-.3771
DENIA	-.5207	-.3001	1.0000	.5741
HONES	-.6086	-.3771	.5741	1.0000

Appendix C

Vitae

VITAE

KENNETH E. LLOYD
1906 S.E. 55th
Portland, Or. 97215
(503) 233-7717

PERSONAL: Married, age 41, excellent health.

OBJECTIVE: Licensed Clinical Psychologist--outpatient generalist with specialties in health psychology, behavioral medicine and psychological assessment.

EDUCATION: **Psy.D.** candidate, Clinical Psychology, George Fox College, Newberg, OR. Anticipated date of graduation - May, 1992.

M.A., Clinical Psychology, (high honors), Western Conservative Baptist Seminary, Portland, OR. - Dec., 1987.

M.A., Counseling/Clinical Psychology, Rosemead Graduate School of Professional Psychology, La Mirada, CA. - June, 1979.

B.A., psychology (major), Ohio State University, Columbus, OH. - Dec., 1976.

EMPLOYMENT EXPERIENCE:

1991-Present: Staff Counselor, Western Psychological and Counseling Services, P.C., Tigard, OR. Supervisor: W. Colwell, Ph.D.

1987-1991: Counselor, Willamette Christian Therapy, Woodland Park Hospital -- In-patient counseling; co-lead group psychotherapy; life-skills instructor.

1987-1991: Graduate Fellow, for Dr. Rodger Bufford, Chairman, Department of Psychology, George Fox College, Newberg, OR. -- Assist with the administrative affairs of the psychology department.

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1987-1990 Mental Health Therapist, Pacific Gateway Hospital, Portland, OR. -- In-patient psychiatric care with adolescents and adults with a dual-diagnostic focus.

1980-1986 Psychology Assistant, Ohio Department of Corrections, London, Ohio -- Psychodiagnostic interviewing and assessment; administration\interpretation of psychological instruments; evaluative report writing; individual counseling; group counseling-substance abuse; crisis intervention; consultation with staff; limited administrative duties. Supervisor: R.C. Rahn, Licensed Clinical Psychologist.

1979-1981 Psychiatric Technician, Harding Psychiatric Hospital, Worthington, Ohio -- milieu therapist with adolescent and adult patients within an in-patient setting.

TRAINING EXPERIENCE:

6/1989-8/1991 Internship - Western Psychological & Counseling Services, P.C., Portland, OR. -- Outpatient individual and group psychotherapy, marital counseling, psychodiagnostic assessment. Supervisors: W. Colwell, Ph.D.; R. Bufford, Ph.D.; T. Mishler, Psy.D.

9/1988-6/1989 Practicum - Elahan Mental Health Center, Vancouver, WA. -- Individual adult outpatient psychotherapy; intellectual/personality assessment. Supervisor: C. Weiser, Ph.D.

1978-1979 Practicum - Sierra High School, Whittier Union High School District, Whittier, CA. - Psychodiagnostic Assessment; Individual counseling; Consultation. Supervisor: Barbara Phillippi, School Psychologist.

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PROFESSIONAL LICENSURE:

Licensed Professional Clinical Counselor--Ohio.

PROFESSIONAL AFFILIATION:

American Psychological Association: Affiliate Member.

PSYCHODIAGNOSTIC EXPERIENCE:

AAMD Adaptive Behavior Scale
Beck Depression Inventory
Bender Visual Motor Gestalt Test
Edwards Personal Preference Schedule
House-Tree-Person Drawing Test
Interpersonal Behavior Survey
Minnesota Multiphasic Personality Inventory
Otis-Lennon Mental Ability Test
Peabody Picture Vocabulary Test
Roberts Apperception Test for Children
Rotter Incomplete Sentence Blank
Stanford-Binet Intelligence Test, Fourth Edition
Thematic Apperception Test
Wechsler Adult Intelligence Scale, Revised
Wechsler Intelligence Scale for Children, Revised
Wechsler Preschool and Primary Scale of Intelligence
Wide Range Achievement Test, Revised