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The University of Arizona, 1987

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THE RELATIONSHIP BETWEEN CHARACTER TYPE
AND COGNITIVE-MORAL DEVELOPMENT

by

Joseph Francis Hasler

A Thesis Submitted to the Faculty of the
DEPARTMENT OF PSYCHOLOGY
In Partial Fulfillment of the Requirements
For the Degree of
MASTER OF ARTS
In the Graduate College
THE UNIVERSITY OF ARIZONA

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ABSTRACT

This study investigated the relationship between the character typology proposed by C.G. Jung, and the stages of cognitive-moral development described by Lawrence Kohlberg. It was hypothesized that certain character types, particularly those preferring introversion and intuition, would display the higher levels of moral development. A total of 120 male and female introductory psychology students at the University of Arizona were administered the Myers-Briggs Type Indicator (MBTI) to assess character type, the Sociomoral Reflection Objective Measure (SROM) to identify stage of moral development, and the Shipley-Hartford Institute of Living Scale as a brief estimate of IQ. The only significant differences in moral development as a function of character type were between the judging and perceiving types, with perceiving types displaying the higher mean SROM score ($p < .02$). This finding suggests that open-mindedness is more conducive to moral development than the tendency to jump to immediate conclusions.

CHAPTER 1

INTRODUCTION

This study examines the relationship between the various personality types theorized by C.G. Jung, and the different levels of moral development described by Lawrence Kohlberg. An analysis of the instruments used to assess these typologies is presented, along with a discussion of the strengths and weaknesses of each author's theory. A review of past research, which indicates that different personality types do employ different methods of moral judgement, is presented to justify the hypothesis that different Jungian character types function at different levels of Kohlberg's hierarchical scheme.

The sequential stages of cognitive moral development theorized by Lawrence Kohlberg have been the subject of numerous research studies. Most of these studies have concerned themselves with the effects of demographic and social/environmental influences on morality, and on the behavior of those functioning at the various stages. Only a small minority have dealt with the subject of how a person's specific personality structure affects his or her moral judgement. Although most of these studies have demonstrated significant correlations between personality type and moral development, the list of personality inventories and theoretical perspectives used in this endeavor is far from comprehensive. For example, the character types of C.G. Jung have

greatly interested many researchers, but have rarely been used in personality-morality investigations. An examination of the relationship between these two well-known typologies therefore seems warranted.

Kohlberg's Moral Stages

Kohlberg's is a cognitive-developmental theory based on the assumption that one develops morally along an invariant sequence of stages, with each stage displaying a characteristic mode of moral judgement (Kohlberg, 1969). He classifies the stages and the corresponding basis of judgement as follows:

Level I - Premoral: Moral value resides in external quasi-physical happenings, in bad acts, or quasi-physical needs rather than in persons and standards.

Stage 1: Obedience and punishment orientation. Egocentric deference to superior power of authority.

Stage 2: Instrumental relativists orientation. Right action is instrumentally satisfying one's needs and occasionally others'. Awareness of relativism of value to each actor's needs and perspective. Naive egalitarianism and orientation to exchange and reciprocity.

Level II - Conventional: Moral value resides in performing good or right roles in maintaining the conventional order and the expectancies of others.

Stage 3: Personal concordance good-boy orientation. Orientation to approval and to pleasing and helping others. Conformity to stereotypical images of majority or natural role behavior, and judgement by intentions.

Stage 4: Law and order, authority and social order maintaining orientation. Orientation to "doing duty" and to showing respect for authority and maintaining the given social order for its own sake. Regard for earned expectations of others.

Level III - Principled: Moral value resides in conformity by the self to shared or shareable standards, rights or duties.

Stage 5: Social contract legalistic orientation. Recognition of an arbitrary element or starting point in rules or expectations for the sake agreement. Duty defined in terms of contract, general avoidance of violations of the will or rights of others, and the majority will and welfare.

Stage 6: Individual principles, or conscience orientation to principles of choice involving appeal to logical universality and consistency. Orientation to conscience as a directing agent and to mutual respect and trust.

The Measurement of Moral Development

Before discussing Kohlberg's stage theory any further, a presentation of the methods used to measure moral development seems in order. Since the arguments for or against the validity of Kohlberg's stages are based on results obtained by assessment instruments, a brief description of the methods and instruments used to measure moral judgment will be given. Also, the reliability and validity of the instrument chosen for use in this study will be discussed.

In his 1958 dissertation, Kohlberg introduced a method of assessing moral development which involved the presentation of complex

moral dilemmas. An example of such is the now famous "Heinz and the drug dilemma":

In Europe, a woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost him to make. He paid \$200 for the radium and charged \$2,000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about \$1,000, which is half of what it cost. He told the druggist that his wife was dying, and asked him to sell it cheaper or let him pay later. But the druggist said, "No, I discovered the drug and I'm going to make money from it." So Heinz got desperate and broke into the man's store to steal the drug for his wife. Should Heinz have done that? Was it wrong or right? Why?

Kohlberg has traditionally used an interview format to probe the subject's reasoning regarding these dilemmas, the most recent of which is the Moral Judgement Interview (MJI) (Colby, Kohlberg, et al., 1984). Subject responses are rated by the interviewer in terms of the six-stage typology. The scoring system, however, only goes as high as stage five. This is due to the fact that the authors feel that the standard dilemmas do not ideally differentiate stages 5 and 6, and also because very few of those interviewed over the years appeared to have reached stage 6.

Because oral interviews require special workshop training of the interviewer and cannot be group-administered, practicality issues have driven authors to devise more time and cost-efficient methods of assessing moral development. There are now a few objective measures of Kohlberg's stages, the oldest and most popular being the Defining Issues Test (DIT) (Rest, 1979). The DIT presents moral dilemmas followed by a series of statements which represent the various stages of moral development. The subject is asked to rate how important each of these

statements is in coming to a conclusion regarding the dilemma, using a likert-type format (great-much-some-little-no).

A newer objective measure of moral development is the Sociomoral Reflection Objective Measure (SROM) (Gibbs et al., 1984). This instrument was developed to be an objective measure which closely approximates the MJI. An objective measure like the DIT differs from the MJI in that it more specifically reflects what people recognize and appreciate in moral arguments rather than what moral arguments they spontaneously produce. Although the SROM is also an objective measure, this instrument seems to provide a better assessment of spontaneous generation of moral reasoning than the DIT. This is reflected in the fact that while correlations between the MJI and DIT are low (Davison and Robbins, 1978; Froming and McColgan, 1979), correlations between the MJI and the SROM are substantially higher (Gibbs et al., 1984). Because the SROM seems to more closely approximate the MJI than does the DIT, the SROM was chosen as the measurement instrument for this study.

Internal Properties of the SROM

An intensive psychometric evaluation of the SROM was conducted by Gibbs et al. (1984); this evaluation examined the instrument's reliability and validity. The assessment measures used for validation were:

- 1) The Moral Judgement Interview (MJI). This is an oral interview measure of stage level and moral judgement (Colby, Kohlberg, et al., 1984). The MJI consists of at least 21 questions which probe the reasoning regarding three moral dilemmas. Responses are rated in terms of Kohlberg's (1969) stage typology. Two types of scores are

generated from the subjects' responses to the dilemmas. One index, the Moral Maturity Score (MMS) is a scale from 100 (pure stage 1) to 500 (pure stage 5). The other index, the Global Stage score, is a 13-point scale that identifies the pure, major, and minor stages: Stage 1, Transition 1 (2), Transition 2 (1), Stage 2, etc., up to stage 5.

2) The Sociomoral Reflection Measure (SRM). The SRM (Gibbs and Widaman, 1982) is a production-task measure of moral judgement designed for group administration. Dilemmas adapted from the MJI are presented, followed by an array of justificatory questions. These questions are preclassified and grouped according to eight sociomoral norms: affiliation (marriage and friendship), life, law, legal justice, conscience, family affiliation, contract, and property. An excerpt from the questions which follow the "Heinz" dilemma (in this case, designed to measure the affiliation norm) illustrate the format:

1. What if Heinz's wife asks him to steal the drug for her?

Should Heinz:

steal/not steal/can't decide (circle one)

1a. How important is it for a husband to do what his wife asks, to save her by stealing, even when he isn't sure whether that's the right thing to do?

very important/important/not important (circle one)

1b. WHY IS THAT VERY IMPORTANT/IMPORTANT/NOT IMPORTANT

(whichever one you circled)?

Two scores are generated by the SRM: 1) the modal stage represented in subjects' responses and 2) the Sociomoral Reflection Maturity Score (SRMS), which is similar to the MJI's MMS. SRMS can be

presented in the following global scale: 100-125 = Stage 1, 126-149 = Transition 1(2), 150-174 = Transition 2(1), 175-225 = Stage 2, etc.

The SROM is closely patterned after the SRM. The difference between the two instruments is that the SROM is a completely objective measure; all justification-related responses are recognitory selections rather than oral or written productions. Two moral dilemmas are presented, followed by eight multiple-choice arrays which represent each of the previously mentioned sociomoral norms. What follows is an illustrative example of an SROM question array, using the "Heinz" dilemma and the "affiliation" norm.

1. What if Heinz's wife asks him to seal the drug for her?

Should Heinz:

steal/not steal/not sure (circle one)

- 1a. How important is it for a husband to do what his wife asks, to save her by stealing, even when he isn't sure whether that's the best thing to do?

very important/important/not important (circle one)

- 1b. Let's say you had to give a reason why it is important for a husband to do that. What reason would you give? Is any of the following reasons close to the one you would give? (If a reason is too hard to understand, seems silly, or makes no sense, just circle "not close" or "not sure.")

- a. because it's his wife, and she told him to do it, so he should do what she says.

close/not close/not sure (circle one)

- b. because he married her, and if he didn't want to help her, why did he marry her in the first place?

close/not close/not sure (circle one)

- c. because they have formed together a deep mutual commitment.

close/not close/not sure (circle one)

- d. because a good husband is expected to help his wife through sickness and health.

close/not close/not sure (circle one)

- e. because he cannot recognize her without acceptance.

close/not close/not sure (circle one)

- f. because he has accepted a responsibility as her husband.

close/not close/not sure (circle one)

- 1c. Of all the above reasons, the reason which is the closest to the reason that you would give (or the least far off from the reason you would give) is:

a b c d e f (circle one)

The options of the "b" sections of SR0M questions represent different Kohlbergian stages (1-5), with a sixth option being a "pseudo" option. This is a marginally or pseudo-meaningful and sophisticated-sounding justification designed to test the validity of a subject's responses. For question 1b of the example given above, option "a" reflects Stage 1; option "b", Stage 2; "c", Stage 5; "d", Stage 3; "e" pseudo; and "f", Stage 4. Protocols which contain more than six

pseudo-options chosen as "close", or more than two pseudo-options chosen as "closest", are dismissed as invalid.

Scores for the SROM are determined by the level of the options selected as "close" (component "b") and "closest" (component "c") from the question arrays. Mean stage levels are determined for both the "close" and "closest" question groups, with the mean "closest" level being given twice the weight of the mean "close" level. These data are used to obtain the Sociomoral Reflection Objective Maturity Scale (SROMS), which is similar to the SRM's SRMS and the MJI's MMS. SROMS can range from 100 (pure stage 1) to 500 (pure stage 5). There is also a 13-point global index, in which SROMS are fitted into a range from Stage 1, Transition 1(2), Transition 2(1), Stage 2, and so on, up to Stage five.

Test retest reliability. A predominantly middle class sample of 58 male and female subjects, ranging in age from 12 to 21 years (mean age 15.0), yielded an overall correlation of .82 (.76 with age partialled) (Gibbs et al., 1984). On the average, subject scores differed about 20-25 points between the two testings, slightly less than one-quarter stage.

Internal consistency reliability. Two different samples yielded Cronbach's alpha coefficients of .84 and .77 (Gibbs et al., 1984). The first sample consisted of 50 male and female subjects ranging in age from 11 to 22 years. The second sample consisted of 82 male and female subjects, also ranging in age from 11 to 22 (mean age 14.5). Again, both samples were predominantly middle class. Correlations between

rating and ranking across the 16 SROM questions of these two samples were .78 and .84.

Validity. The SROM was found to have substantial concurrent validity with both the SRM and the MJI (Gibbs et al., 1984). In the two samples described under "internal consistency reliability", correlations between the SROM and SRM were .77 and .73. Although there was a mean difference of about one-half stage between the two tests when the sample contained both children and adults, samples which contained only college students showed a mean difference of about one-third stage between tests. This was also the case with the MJI; a college sample showed a .66 correlation between the two instruments with an average discrepancy of one-third stage. In all cases the average SROM stage scores were higher than both the SRM stage scores and the MJI stage scores.

These results indicate that the SROM provides a reliable and valid objective index of reflective sociomoral reasoning. They also suggest that while the SROM is adequately reliable and valid for use on adolescents, it is much more reliable and valid when used to assess a college/adult sample. The respective mean stage scores generated by the SROM, SRM, and MJI indicate that subjects' recognitory self-report responses generally exceed the developmental level of their spontaneous responses by about one-third stage. People are apparently capable of recognizing moral arguments at a higher level than they can produce spontaneously. For example, one could estimate that an adult subject's SRM score would be approximately 38 points lower than an SROM score. In summary, although the use of a production measure is always preferable when trying to assess moral reasoning, the SROM appears to be a viable

alternative when time and personnel constraints prevent the use of such a measure.

Discussion of Kohlberg's Stage Theory

Kohlberg's cognitive-developmental theory of moral judgement is similar to that of Piaget (1932). Stages are assumed to be sequential and invariant; no stage can be attained without first attaining a lower stage, and each successive stage represents a more integrated and sophisticated level of functioning. There should be no stage skipping or regression to a lower stage (Kohlberg, 1969).

There is a wealth of evidence to support the hierarchical and sequential nature of Kohlberg's stages (Carroll and Rest, 1981; Davison and Robbins, 1978; Davison, Robbins, and Swanson, 1978; Keasey, 1974; Kuhn, Langer, Kohlberg, and Haan, 1977; Rest, Turiel, and Kohlberg, 1969; Rest, 1973; Walker, deVries, and Bichard, 1984). Also, the results of a 20-year longitudinal study recently completed by Kohlberg and his colleagues (Colby and Kohlberg, 1984) support the invariant, hierarchical sequence of stages. Although there have been longitudinal studies which detected anomalies in the stage sequence (Holstein, 1976; Kohlberg and Kramer, 1969; Kramer, 1978; Kuhn, 1976; White, Bushnell, and Regnemer, 1978), much of this inconsistency can be attributed to the limited reliability of Kohlberg's initial 1958 method of interviewing and scoring moral stage. Kohlberg's current scoring method, Standard Issue Scoring, has proven to be a much more reliable and valid measure of his moral stages (Colby and Kohlberg, 1984), and reanalysis of earlier data with this method has corrected many of the inconsistencies.

An interesting criticism of "pure" stage theory has been put forth by Rest (1979). Based on his research with the Defining Issues Test (DIT), Rest views the moral stages in a different way than Kohlberg. While he agrees with Kohlberg's claim that development involves the increasing use of more advanced or sophisticated types of reasoning and the decreasing use of less sophisticated types, he disagrees with Kohlberg's assumption that people tend to consistently function at one stage at a time. Rest instead holds that people simultaneously employ moral reasoning of many types (stages), and that moral functioning should be measured as a proportion of each type used, rather than a single global stage designation for each individual.

Kohlberg's reply (Colby and Kohlberg, 1984) is that the discrepancy between his data and Rest's lies in the two types of assessment instruments used. The DIT is an objective recognitory measure, and research has shown that people generally recognize more types and higher levels of moral reasoning than they would produce spontaneously (Gibbs et al., 1984). Kohlberg argues that his simple stage theory applies to spontaneous production only; to include recognition and comprehension of the arguments of others under this heading goes beyond the scope of his simple stage model.

In judging the validity of Kohlberg's stage theory for the purposes of this study, the issue is not so much the invariance of sequence or the consistency of stage as it is the actual existence of such stages. People obviously do differ in the way they make moral judgements; the research concerning this assumption is consistent and clear. Whether an individual functions at one stage at a time or

several stages simultaneously, the evidence supports Kohlberg's idea that moral development is sequential and hierarchical.

A problem with Kohlberg's hierarchical model is the implication that those who function at the conventional level are less mature and less "moral" than those who function at the principled level. They are seen as being in a "developmental holding pattern", waiting to reach the more preferred stage of post-conventional behavior. Other theorists such as Asch (1952) and Milgram (1974) have also disparaged conformity and praised autonomous, principled behavior. In a discussion of morality and conformity, Hogan and Busch (1984) question the view that principled behavior is superior to conventional behavior. They introduce the possibility that nonconformity is praised by psychologists and moral theorists because these people are trying to justify their own non-conformity. The point is also made that the majority of people function at the conventional level and conform to societal norms, and that such people are necessary and beneficial to society. To label them as immature because they are not governed by individual principles is unfair.

The purpose of this study is not to in any way place value judgements on the various stages of moral behavior, but rather to explore and identify the different kinds of moral judgement exhibited by different personality types. Whether one stage is "better" than another is not the area of concern. The relationship of individual differences to moral development is an intriguing area which has not received much attention in proportion to the vast body of morality research.

Personality and Moral Development

Studies which have examined the relationship between personality and moral development suggest that there are indeed distinct structural differences between those who function at the conventional level and those who function at the principled level. Hogan (1970) used his Survey of Ethical Attitudes (SEA) and some popular personality inventories to look at the relationship between personality and moral reasoning. The SEA is an instrument designed to assess whether a person obeys the "ethics of personal conscience" or the "ethics of social responsibility". According to the ethics of personal conscience, there exist higher laws, unrelated to human legislation, which once can discover by intuition or reason. The ethics of social responsibility assert that there is no such thing as "higher law", and that the most defensible criteria for evaluating social action are the existing legal system and the general welfare of society.

This study's sample consisted of 149 men and women; 101 were students, and 48 were from outside the academic community. Scores on the SEA were correlated with scores on the California Psychological Inventory (CPI), the Myers-Briggs Type Indicator (MBTI), and the California F Scale, a well known measure of antidemocratic tendencies. The results showed that persons with low SEA scores (personal conscience) tend to be independent, innovative, intuitive, and creative; however, in the extreme sense, they may also be opportunistic, irresponsible, and given to rash behavior. Those with high SEA scores (social responsibility) were well-socialized, even-tempered, diligent, and systematic, but were also counterintuitive and grounded in fact. In

the extreme sense, these people can be unoriginal in their ideas and behavior, and resistant to social change.

In another SEA study, Hogan and Dickstein (1972) used a sample of 92 male college students to examine people's perceptions of injustice. They found that those with low SEA scores doubted the efficacy of legislated laws as a means for promoting human welfare, and believed institutions to be the source of human injustice. Those who scored high on the SEA had faith in the instrumental value of the law, and believed that injustice results from the actions of individuals. Since the SEA is not theoretically based on Kohlberg's stage model, we cannot assume without question that the same personality characteristics would apply to those classified under Kohlberg's scheme. However, the ethics of "personal conscience" and "social responsibility" seem to correspond quite closely to the ideas of "principled" and "conventional" morality (Kurtines and Greif, 1974).

Studies which have used the DIT to examine the personality-morality relationship have yielded similar results. Polovy (1979) examined correlations between the DIT and the CPI in a sample of 549 male and female students from Catholic colleges and high schools, and found that those who preferred principled reasoning to be more autonomous, creative, and flexible than those who preferred conventional reasoning. Those at the principled level also had higher scores on the CPI's Social Maturity Index. Similar DIT-CPI correlations were observed by Hartwick (1975) in a sample of 98 undergraduates. Using a sample of 35 college students, Schomberg (1975) compared the Omnibus Personality Inventory to the DIT and found strong positive correlations with

"complexity" and "autonomy", and found a strong negative correlation with "practical outlook". In comparison, the "principled" stage of moral development measured by the DIT seems to be quite similar to the "ethics of personal conscience" measured by the SEA.

Studies which have used the MJJ have reported similar personality relationships with the California F Scale (Kohlberg, 1964) and the Omnibus Personality Inventory (Sullivan and Quarter, 1972). However, Kohlberg introduced his Standard Issue Scoring in 1972, and the earlier scoring methods used in these studies have since been dismissed as being too content biased. Although it seems unlikely that past studies will be contradicted, the dearth of personality research using Kohlberg's present scoring system suggests a need for more correlational studies between the MJJ and major personality inventories.

Other Variables Related to Moral Development

Numerous studies have shown positive relationships between moral development and variables such as age, education, and IQ (see Lickona, 1976 and Rest, 1979). The general agreement among researchers is that while maturity and mental ability certainly contribute significantly to a person's mode of moral judgement, there are many other social and personality influences which also contribute greatly to an individual's moral development. The variables of age, education, and IQ are not as important in relation to the present study (as opposed to cross-sectional and longitudinal studies) due to the fact that a relatively homogeneous college sample will be used. Interestingly, the majority of the previously mentioned personality-morality studies have used samples of young adults and college students, and have still found

positive relationships between personality type and moral development. Even within this limited range of the Kohlbergian spectrum, significant differences in moral judgement as a function of personality can be observed. This finding further supports the idea that moral judgement is intimately related to personality type.

The Jungian Personality Typology

The personality theory of C.G. Jung (1923, 1933, 1953) is a typological taxonomy based on the assumption that apparently random variations in human behavior are in reality due to orderly combinations of a few bipolar character tendencies. Jung postulated the existence of six different, but equally normal, modes of perceiving and approaching the environment: four functional types - thinking, feeling, sensation, and intuition, and two attitudinal types - introversion and extraversion. The functional types exist within each of the two attitude types; thus there are a total of eight possible type combinations.

The four functional types consist of two pairs of opposites: thinking-feeling and sensation-intuition. Sensation and intuition are what Jung called the "irrational" functions; they identify a person's preferred way of perceiving things. Thinking and feeling are known as the "rational" functions; they refer to the way a person makes judgements about what has been perceived.

Sensing types become aware of the world around them directly through the five senses. They notice the concrete details and practical aspects of situations. Intuitive types, on the other hand, become aware of things indirectly via the unconscious. The intuitive's perceptive

process is vague and spontaneous, and perceptions are accompanied by ideas, associations, and possibilities which are inferred by the unconscious.

Thinking types come to logical, impersonal decisions through an objective, unemotional judging process. The emphasis is on deciding if something is right or wrong, or true or false. Feeling types employ a subjective, sentimental method of discrimination based on personal values. They are concerned with deciding if something is valued or not valued, or liked or disliked.

The attentional focus of these functions is determined by one's attitude type, which is either introverted or extraverted. Jung defined an extravert as a person whose mental or "psychic" energy is primarily directed outward toward the object. These types attend to the outer world of people, things, and events. In contrast, an introvert's psychic energy is directed inward toward the subject. These types of people tend to be somewhat detached from the world around them, preferring to focus their attention on the subjective inner world of concepts and ideas.

The Superior and Auxiliary Functions. According to Jung, one of the four functions is always more highly developed and relied upon than the other three; this function is known as the "superior" function. The superior function is the most conscious function, and is the most intimately associated with one's attitude type. Although the other three functions are less developed and less conscious, they vary in their degrees of repression and development. One of these "inferior" functions may also become more highly developed than the other two and

function at a more conscious level; this function is called the "auxiliary" function. The auxiliary function can never be the opposite of the superior function; the opposite pole of the superior function always remains the least developed and most repressed. For example, if a person's superior function was intuition, the auxiliary function would have to be either thinking or feeling. Sensation would be the most repressed inferior function.

Structural Properties of Jung's Typology

Jung believed there is a predisposition to develop certain attitudes and functions. Although the environment may influence the extent to which a function/attitude is developed, a person's type remains stable throughout life; changes in type are highly unlikely. The attitudes and functions are therefore seen as categorical rather than continuous variables. A person is either introverted or extraverted, thinking or feeling, sensing or intuitive.

Although these tendencies will be developed to different degrees in different people, the assumption is that one pole of the opposites is always more highly developed than the other. Jung viewed this tendency for preferring one pole of an attitude/function over its opposite as adaptive and necessary for the development of a normal personality. Therefore, when both members of a pair of opposites are at the same level of development, they are both seen as being underdeveloped rather than equally developed. Jung viewed such "type indeterminacy" as undesirable; the result is conflicting, vacillating, ineffectual behavior. By learning to develop and rely upon one pole of a

function/attitude pair over another, judgements become much more trustworthy, and behavior becomes much more effective.

Another important aspect of Jung's typology is his belief that various combinations of the attitudes and functions modify each other and produce unique effects. Each of his postulated eight combinations of attitude and function are identifiably and qualitatively different from one another; extraverted thinking is different from introverted thinking, intuitive feeling is different from intuitive thinking, and so on. In Jung's view, these various combinations of attitude and function, along with the different possible combinations of superior and auxiliary functions, give order to and explain the apparently random variation in human character.

The Measurement of Jungian Typology

Although there have been several attempts to develop an instrument to assess Jung's typology (Gray and Wheelwright, 1946; Loomis, 1982), the most widely used and thoroughly examined Jungian inventory has been the Myers-Briggs Type Indicator (MBTI) (Myers, 1962). Despite many attacks on its ability to validly measure a typology as theoretically complex as Jung's (this will be discussed in detail later), the MBTI has remained the instrument of choice by researchers who wish to classify subjects by Jungian type. Because the MBTI has been so extensively used and researched, and because no other Jungian inventory has been proven clearly superior in assessing Jung's typology, the MBTI was chosen as the instrument for use in this study to identify Jungian character types.

The MBTI is designed to identify a person's preference for each of the attitude and function poles. There are four indices: 1) the E-I index, which tells whether a person is an extravert or an introvert; 2) the S-N index, which differentiates between sensation and intuition; 3) the T-F index, which identifies thinking vs. feeling; and 4) the J-P index, which tells whether a person uses a judging or perceiving style to deal with external reality.

The J-P distinction was never explicitly put forth by Jung; this index is Myers' attempt to identify whether a person prefers to function in a judging mode (coming to conclusions) or a perceiving mode (becoming aware) most of the time. Judging types are said to be organized and planful, preferring to regulate and control life as much as possible. Perceiving types, on the other hand, are spontaneous and open-minded, taking a curious and adaptive approach to life.

This J-P index is intended to identify a person's superior and auxiliary functions. If a person is a judging type, he or she will predominantly use thinking or feeling to deal with the outside world. Perceptive types, on the other hand, will prefer to use sensation or intuition. Since an extravert's attentional focus is external, the J-P preference identifies the superior function. In introverts, however, just the opposite is true. Since an introvert's focus is internal, and since the J-P preference identifies the way in which one deals with the outside world, the J-P preference identifies the auxiliary function of the introvert, rather than the superior function as it does for extraverts.

The MBTI is set up in a forced-choice format designed to determine preferences between opposites. The items consist of behavior reports, value judgements and word pairs. Each item has one answer weighted in favor of one of the eight preferences (E,I,S,N,T,F,J,P), with the other answer weighted in favor of the opposing preference. For example:

If strangers are staring at you in a crowd, do you

- A) often become aware of it
- B) seldom notice it

Is it higher praise to call someone

- A) a man of vision
- B) a man of common sense

Which word appeals to you more?

- A) peacemaker
- B) judge

On most matters do you

- A) have a pretty definite opinion
- B) like to keep an open mind

The first example question is designed to differentiate introversion-extraversion, the second, sensation-intuition, the third, thinking-feeling, and the fourth, judging-perceiving.

The MBTI, therefore, yields eight raw scores. These scores can be used to produce four dichotomous type-category scores, or can be transformed into four continuous scores. Type-category scores are determined by subtracting the smaller raw score of each preference pair from the larger. This yields a "difference" score which reflects that

person's preference. These difference scores are then converted to point scores (using a table in the manual), with zero being the dividing line between the two poles. Four type-category scores are obtained for each person, with the final result being the classification of a person as one of 16 possible types: ISTJ, ISFJ, INFJ, INTJ, ISTP, ISFP, INFP, INTP, ESTP, ESFP, ENFP, ENTP, ESTJ, ESFJ, ENFJ, or ENTJ.

Continuous scores are obtained by taking type-category scores and either adding or subtracting from 100. 100 is added to I,N,F,P preferences, while E,S,T,J preferences are subtracted from 100. The division point is now 100; therefore, an E-I score of 85 would be classified as extraverted, while a score of 115 would be classified as introverted. Although continuous scores are not as readily interpretable as type-category scores, they are sometimes preferred for statistical analyses.

Internal Properties of the MBTI

Intercorrelations and Reliability. Studies which have examined intercorrelations between MBTI scales have used both type-category (Stricker and Ross, 1963; Webb, 1964) and continuous scores (Myers, 1962; Stricker and Ross, 1963; Stricker, Schiffman, and Ross, 1965; Webb; 1964). The results of these studies have been generally consistent, showing the E-I, S-N, and T-F scales to be relatively independent of each other, with the S-N scale usually correlating positively with the J-P scale. Supported here is Jung's idea that his preference types are separate and independent functions.

Studies which have investigated the internal consistency reliability of the MBTI have also used both type-category and continuous

scores (Myers, 1962; Stricker and Ross, 1963; Webb, 1964). Various computational methods have yielded reliability coefficients from .55 to .85 (E-I), .64 to .87 (S-N), .43 to .82 (T-F), and .58 to .94 (J-P), with the modal trends of these coefficients being in the high .70's. Test-retest reliability studies on college students (Levy, Murphy, and Carlson, 1972; Stricker and Ross, 1964a) have produced similar reliability coefficients ranging from .73 to .83 (E-I), .69 to .78 (S-N), .48 to .82 (T-F), and .69 to .82 (J-P). These internal consistency and test-retest reliabilities are greater than or equal to the reliabilities of other instruments of this sort, showing that the MBTI is in the upper reliability range compared to other personality inventories (Myers, 1962).

Validity. In her 1962 manual, Myers presents a thorough and detailed argument for the MBTI's validity. Also, in a review of reliability and validity studies done on the Indicator, Carlyn (1977) concluded that the MBTI scales do measure important dimensions of personality which seem to be quite similar to those postulated by Jung. Carlyn's review examined the Indicator's content, construct, and predictive validity.

Content validity was demonstrated in a study by Bradway (1964) in which Jungian analysts compared their perceived self-types to typing by the MBTI. There was 100% agreement on the E-I classification, 68% agreement on the S-N classification, and 48% agreement on the T-F classification. Correlational studies between the MBTI and the Gray-Wheelwright Questionnaire, another measure of Jungian types, have

also shown significant relationships between the three indices (Bradway, 1964; Stricker and Ross, 1964b).

Construct validity of the MBTI has mainly been demonstrated through correlational studies with other personality inventories, such as the Strong Vocational Blank (SVIB), the Edwards Personal Preference Schedule (EPPS), the Alport-Vernon-Lindsay Study of Values (AVL), the Personality Research Inventory (PRI), and the California Psychological Inventory (CPI) (Myers, 1962; Stricker and Ross, 1964b; Stricker, Schiffman, and Ross, 1965; Webb, 1964). Although there are some inconsistencies, for the most part, the various measures of vocational preference and personal values provided by these tests seem to be correlated with the different MBTI scales in a way that is generally consistent with Jungian theory (Carlyn, 1977).

Despite the instrument's apparent utility, however, the MBTI's ability to accurately measure Jung's typology has been questioned by many authors (Coan, 1978; Comrey, 1983; Mendelsohn, 1965; Stricker and Ross, 1964a & 1964b). The general consensus of these authors is that the MBTI does not successfully produce a true representation of Jungian concepts, and that it at best provides limited reflections of Jung's postulated dimensions. Coan (1978) suggests that much of this may be due to the inherent difficulty involved in trying to measure a theoretical typology as complex as Jung's through self-report. For example, Jung's idea of introversion-extraversion has to do with whether a person's psychic energy flows inward or outward; however, MBTI questions instead focus on behavioral correlates such as social withdrawal vs. gregariousness. Both Coan (1978) and Comrey (1983)

suggest that many MBTI questions do not grasp the full intent of Jung's theorized constructs, and therefore reflect only limited aspects of each function and attitude.

The validity of the structural properties of Jung's typology has also been questioned, particularly the categorical and interacting nature of the functions and attitudes (Stricker and Ross, 1964a). In this study, no bimodal distributions across types were observed; such distributions would be expected if there were actually two separate bipolar preferences. Myers (1962) argued for the existence of dichotomous groups by showing that regression equations for opposite preferences become highly dissimilar and diverge at the zero point, but these findings were not replicated by this study. Mendelsohn (1965) criticized Myers' use of disparate regressions as evidence of dichotomy, saying that she provided no statistics to prove the regression shifts were nothing more than chance effects. Stricker and Ross (1964a) also found no interactions among the various combinations of attitude and function, casting doubt on Jung's idea that such combinations modify each other and produce unique effects.

In summary, the body of research done on the MBTI suggests that the type classifications it produces are related to, but not identical with, those postulated by Jung. Although correlational studies with other personality inventories generally support the construct validity of the scales, close psychometric inspection has revealed the MBTI's inability to comprehensively reflect Jungian typology. Despite its weaknesses, however, the MBTI is still regarded as a highly useful personality inventory (Coan, 1978; Mendelsohn, 1965). It relates

meaningfully to a number of personality variables, and is definitely worthy of use in further research. It must be kept in mind, however, that the types produced are limited approximations, rather than true representations, of Jung's theoretical types.

Jungian Types and Their Relationship to Moral Development

Based on the previous discussion of personality and moral structure, each of the several attitude/function poles seems to intuitively correspond with either the principled or conventional stage of moral judgement. Introversions's inward flow of psychic energy would seem to be more likely to produce a morality of individual conscience, whereas an extravert's concern with external objects would more likely promote a society-based morality. In a similar vein, an intuitive's unconscious perception process would be less influenced by societal mores than the reality-based perceptual process of the sensing type. The feeling type's need for harmony and concern for others should make this type more likely to develop a conventional morality than the thinking type whose judgements are more logical and impersonal; however, Hogan's (1970) study using the SEA and the MBTI showed just the opposite to be true. Furthermore, if one assumes the validity of Jung's idea that various type combinations produce unique effects, then such clear-cut, simplistic distinctions between the attitude/function poles are difficult to make.

Previous research in the area of Jungian types and Kohlberg's theory of moral development has been extremely limited. In what may be the only study previously done in this area, Handel (1977) used the MBTI

and the Kohlberg Moral Maturity Interview to examine the relationship between type and moral stage in 61 male high school and college students. He found introverts to have a significantly higher Moral Maturity Score (MMS) than extraverts. Also, introverted thinking types had higher MMSs than extraverted thinking types, and introverted feeling types had higher MMSs than extraverted feeling types. Introverts of either the thinking or the feeling type were found to be at the highest level of moral development. The author hypothesized that this was due to the fact that thinking and feeling are both "judging" as opposed to "perceiving" functions, and that developed judgement is necessary to make complex moral decisions.

This study attempts to replicate portions of the Hogan (1970) and the Handel (1977) studies, this time using an objective measure of Kohlberg's stages to assess moral development. It will also address some previously unexplored areas, such as examining whether intelligence is a significant contributor to one's SROM score within a relatively homogeneous undergraduate sample. Also, an attempt will be made to ascertain which Jungian personality variables are the best predictors of moral development.

Hypotheses to be Tested

- 1) Based on the available evidence:
 - a) Introverts will be expected to generate higher SROM scores than extraverts.
 - b) Thinking types will be expected to have higher SROM scores than feeling types.

- c) Intuitive types will be expected to have higher SROM scores than sensing types.
- 2) Because the I,N, and T types are expected to individually produce higher SROM scores than their opposites, the INT type combination will be expected to produce the highest SROM score, with the ESF type combination producing the lowest. Also, if intelligence is in fact related to moral development within this sample, then it would be even more likely that the INT type would have the highest SROM score; INT types have been shown to consistently be the highest scorers on IQ and SAT tests, and to have the highest GPA (Myers, 1962).

CHAPTER 2

METHOD

Subjects

The sample consisted of 120 (70 female, 50 male) introductory psychology students at the University of Arizona. The mean age of the subjects was 18.9 years, with an SD of 1.03.

Instruments

The instruments used were the MBTI and the SROM, both of which have already been described in detail. A third instrument, the Shipley-Hartford Institute of Living Scale (Shipley, 1940), was used as a measure of intelligence. This scale is a 60-item instrument which consists of a 40-item vocabulary test and a 20-item abstraction test. Originally designed as an aid in detecting intellectual impairment, this test has also been found to function quite well as a reliable and valid measure of IQ within the borderline to superior intelligence range (Paulson and Lin, 1970). Raw scores are converted to IQ estimates; a perfect score of 80 corresponds to a WAIS score of 127. This measure is therefore unable to estimate the IQs of those well above the superior range. Reliability coefficients obtained from a standardization sample of 322 army recruits were .87 for the vocabulary test, .89 for the abstraction test, and .92 for the two combined (Shipley, 1940).

Procedure

Subjects were administered all three instruments during a group testing session; they were asked to identify themselves by age and sex only in an effort to improve response accuracy. Continuous scores on each MBTI index were compared to SROM scores by Pearson Product Moment Correlation. The mean SROM scores of opposing MBTI preferences (e.g., introversion/extraversion) were compared to one another by t-test; both individual MBTI indices and various type combinations were examined. These statistical analyses were also used to compare MBTI and SROM scores with scores on the Shipley-Hartford Scale. Had there been significant differences between the IQs of those classified in the various type-categories or moral stages, the Shipley-Hartford scores would have been used as a covariate to control for IQ. In addition, had there been stronger correlations between SROM scores and the continuous scores on the four MBTI indices, a stepwise multiple regression would have been performed to determine which MBTI type combination best predicted a high performance on the SROM.

CHAPTER 3

RESULTS

SROMS and MBTI Indices

SROM scores ranged from 260 to 460, with an overall mean of 368 and an SD of 33.38. No significant differences in SROMS were observed between the polar opposites of introversion/extraversion, thinking/feeling, or sensation/intuition. However, significant differences were observed between judging and perceiving, with perceiving types having a higher mean SROMS (373.84) than judging types (359.55) ($t=-2.35$, $df=118$, $p < .02$). A significant correlation of .28 ($p < .002$) was also found between SROMS and the continuous J-P dimension of the MBTI.

ShIPLEY-Hartford with MBTI Indices and SROMS

Scores on the Shipley-Hartford Scale ranged from 41 to 76, with a mean of 62.8 and SD of 6.54. There were no significant IQ differences between any of the four MBTI dichotomies, although there was a .21 ($p < .018$) correlation between the Shipley score and the continuous J-P dimension of the MBTI. As expected, there was a significant correlation between the Shipley and the SROM, $r=.33$, $p < .001$.

MBTI Type Combinations with SROM and Shipley Scores

The Bi-Polar breakdowns are given in Table 1.

Table 1

Bi-Polar Breakdowns of the Four MBTI Indices

	<u>n</u>		<u>n</u>
Extraverts	68	Introverts	52
Sensing Types	52	Intuitive Types	68
Thinking Types	28	Feeling Types	92
Judging Types	49	Perceiving Types	71

Table 2 displays the distribution and frequency of the 16 possible type combinations. Virtually no significant differences were observed between the various type combinations with regard to SROM or Shipley scores, although there were some trends in the hypothesized directions. The only significant difference was between the SROMS of the IN and IS types, with the IN types having the higher mean SROM score (377.7 to 357.3, $t=2.37$, $df=50$, $p < .02$). Furthermore, the uneven distribution of types made comparisons between type combinations of more than two dimensions extremely unreliable; for example, there were only 5 INT types among the 120. As expected, introverted intuitive types did have the highest mean SROM and Shipley scores. Contained in Table 3 are the SROM and Shipley scores for the eight bi-dimensional type combinations examined in this study.

Table 2
Frequency Distribution of the MBTI Type Combinations

ISTJ	ISFJ	INFJ	INTJ
2.5%	8.3%	5.0%	1.7%
2.0%	6.0%	2.0%	2.0%
2.9%	10.0%	7.1%	1.4%
ISTP	ISFP	INFP	INTP
3.3%	7.5%	12.5%	2.5%
4.0%	10.0%	16.0%	4.0%
2.9%	5.7%	10.0%	1.4%
ESTP	ESFP	ENFP	ENTP
1.7%	5.0%	24.2%	2.5%
2.0%	6.0%	20.0%	6.0%
1.4%	4.3%	27.1%	0.0%
ESTJ	ESFJ	ENFJ	ENTJ
8.3%	6.7%	7.5%	0.8%
8.0%	8.0%	2.0%	2.0%
8.6%	5.7%	11.4%	0.0%

Top Row - Overall Sample (n=120)

Middle Row - Males (n=50)

Bottom Row - Females (n=70)

Table 3
 Mean SROM and Shipley Scores for Bi-Dimensional Type Combinations

<u>Type</u>	<u>SROMS</u>	<u>SHIP</u>	<u>n</u>
IN	377.7	64.2	26
EN	367.8	62.4	42
IS	357.3	62.7	26
ES	369.4	62.2	26

NT	371.5	61.3	9
NF	371.0	62.9	59
ST	359.7	60.9	19
SF	362.0	63.6	33

Correlations

Significant intercorrelations were observed between many of the MBTI scales (see Table 4 below). Also included are the correlations between the MBTI scales and the SROM and Shipley.

Sex Differences

A few notable differences were observed between males and females. The females' mean score on the continuous T-F dimension of the MBTI (115.68) was significantly greater than that of the males (103.28) ($t=-3.17$, $df=118$, $p < .002$), suggesting that females are more likely to be feeling types than males. This point received further support when the frequencies of thinking and feeling types were broken down by sex; there were over four times as many feeling types than thinking types among females (57 to 13), compared to slightly more than twice as many feeling types than thinking types among males (35 to 15). Another frequency disparity was observed between males and females in the type classification of judging vs. perceiving. Among females there were roughly the same number of judging as perceiving types (J=33, P=37), while among males there were over twice as many perceiving as judging types (J=16, P=34). Perhaps the most interesting difference, however, was the fact that there were fewer intercorrelations among the MBTI scales in the female sample than in the male sample, as illustrated in Table 5.

Table 4
Correlation Coefficients Between Instruments and MBTI Scales

	EI	SN	TF	JP	SHIP
SROMS	-.02	.21*	.11	.28**	.33***
EI		-.17	.00	-.02	.10
SN			.26**	.43***	.19*
TF				.26**	.07
JP					.22*

*Significant at .05 level
 **Significant at .01 level
 ***Significant at .001 level

Table 5
Intercorrelations Between MBTI Scales

	<u>Males</u>		
	SN	TF	JP
EI	-.09	.00	.11
SN		.36**	.46***
TF			.40**
	<u>Females</u>		
	SN	TF	JP
EI	-.20	.07	-.13
SN		.18	.44***
TF			.19

**Significant at .01 level
***Significant at .001 level

CHAPTER 4

DISCUSSION

Contrary to what was expected in light of the previous research, there was no difference in the degree of moral development between introverts and extraverts. Intuitive types and thinking types also failed to show higher levels of moral development than their polar counterparts. The only significant difference was between the judging and perceiving types, with the perceiving types demonstrating the higher achievement on Kohlberg's scale. This difference in moral judgement between judging and perceiving types is consistent with the findings reported by Hogan (1970).

These findings suggest that it is not so much one's attitude or function type which influences moral development as it is the method one uses to come to conclusions. Judging types tend to be more closed-minded in their decision making process; they prefer to weigh the available information about a subject, person, or thing, and make a decision as soon as possible as to whether they like or dislike, or agree or disagree. Once a decision is made, any further information is immaterial and irrelevant; as far as they're concerned, the information is all in and the case is closed (Myers, 1962).

Perceiving types, on the other hand, tend to be more open-minded when making decisions. They are much slower to make judgments, as they

are constantly weighing new information and new developments. To them, the evidence is not all in yet; there may be much more to something than is seen initially, so it would be unwise to jump to a hasty conclusion (Myers, 1962).

This contrast between judging and perceiving types provides a reasonable explanation for their differences in moral development. Since a judging type seeks to make a decision as soon as possible and is then comfortable with that decision despite the availability of additional information, it makes sense that these types would be more likely to stay at a lower level of moral development. They are satisfied with their initial judgements, and therefore remain fixated at a certain level along the Kohlbergian hierarchy.

In contrast, since perceiving types prefer to be continually gathering in new information before making a decision, they would seem to be much less likely to become developmentally fixated. The open-mindedness inherent to the perceiving type makes these people the better candidates to continue the process of moral development throughout their lives and reach the higher stages of Kohlbergian development.

As expected, there was a significant correlation between moral development and intelligence. However, although significant, this correlation was moderate (.33), thus providing further support for the idea that intelligence is not the only factor which contributes to moral development. Although none of the various type combinations reflected the hypothesized significant differences in moral development or intelligence, the IN type combination, associated with the highest

levels of intelligence by Myers (1962), did obtain the highest mean scores on the SROM and Shipley. The significant correlation between the Shipley and the continuous JP dimension on the MBTI suggests a mild relationship between intelligence and the tendency to be a perceiving type.

The significant intercorrelations observed between the SN, TF, and JP scales are quite different from those observed in other MBTI research (Carlyn, 1977). This research has consistently shown a positive correlation between the SN and JP scales, with the rest of the scales being relatively independent of one another. Interestingly, when the sample is broken down by sex, only the males display this strange pattern of intercorrelations between scales. The female sample shows only the expected correlation between the SN and JP scales. Males also notably differed from females in that perceiving types outnumbered judging types by more than two to one; however, what to make of these sex differences interpretively is unclear. The only other sex difference of note, the tendency for females to lean more in the direction of feeling on the T-F dimension than the males, makes a bit more sense giving that feeling is the more traditionally feminine quality than thinking.

Generally speaking, the average scores obtained on the various instruments were comparable to those found by other researchers. SROM scores were similar to those found in the SROM validation studies by Gibbs et al. (1984), indicating that college students as a group tend to be approaching stage four of Kohlberg's hierarchy. Over three-quarters of the sample (77%) fell within the 325-400 SROMS range, with only 2.5%

demonstrating a score greater than 425 and reflecting a transition toward stage 5.

The consistency of the MBTI scores and type distributions with those of other studies is much harder to judge, due to the fact that the distribution and frequency of types tends to differ as a function of sex and college major (Myers, 1962). Interestingly, among the sample of introductory psychology students used in this study, there was a much greater preponderance of feeling types (92 F to 28 T), even in males (35 F to 15 T). This makes sense, given that the field of psychology is more likely to attract more feeling types than thinking types. Overall, the INFP and ENFP types accounted for over 36% of the sample, again suggesting that a certain MBTI profile tends to be attracted to a course in psychology.

Shipley scores were also consistent with those expected from a college sample; the obtained mean of 62.8 roughly corresponds to an overall WAIS score of 114 (Paulson and Lin, 1970). Although a fairly wide range of scores was obtained (41-76), the distribution showed a marked negative skew, with most of the scores (67%) bunched in the 56-68 range.

Limitations

The limitations of this study cannot be overlooked. First of all, the generalizability of these findings are extremely limited, due to the circumscribed nature and relative homogeneity of the sample. Samples of various age, education, and SES levels would likely yield much different results. In fact, as suggested by the MBTI literature, a sampling of students from a different course of college study, such as

engineering, might very well provide a different pattern of results than those obtained here. Caution must clearly be used in attempting to apply these results beyond the sample used in this study.

The other obvious limitation involves the instruments themselves; none have been demonstrated to unequivocally and accurately measure the constructs they are designed to measure. All three provide, at best, reasonable approximations of constructs whose very existence may be questionable; there is no universal agreement concerning the parameters of Jungian types, Kohlbergian stages, or IQ. In addition, the motivation of a quasi-captive college sample to accurately and earnestly fill out questionnaires, particularly lengthy ones, must also be questioned. Although approximately 25% of the SROMs were discarded as invalid due to too many pseudo-responses and thus improved the validity of the instrument, the pattern of responses on the SROM was quite inconsistent in many of the protocols accepted as valid. This response inconsistency, however, could very well be another weakness of the instrument itself (rather than a motivational problem on the part of the sample), as the SROM is relatively new and unproven.

Implications for further research

The suggestions for further research raised by this study are twofold. First of all, the weaknesses of the measuring instruments used in this study could present an argument for the need of better methods to objectively assess the Jungian and Kohlbergian typologies. Given the results of this study, this particularly applies to the SROM; further study and validation of this instrument is definitely indicated. However, the more likely implication from this study is the probability

that no objective instruments can accurately measure the theoretical constructs put forth by Jung and Kohlberg. More sophisticated measurement techniques seem to be needed for research in this area, such as Kohlberg's Moral Judgement Interview. In the case of measuring Jungian types, it would seem that a new instrument needs to be developed which is less controversial and more in line with Jung's theoretical ideas.

The second part of the implications derived from this study has to do with the findings themselves. As the results suggest, the main contributor to moral development may be decision-making style rather than personality type. This is an interesting question which is definitely worthy of further research. Also, the sex differences observed among the intercorrelations between the MBTI scales suggests the need for a replication to see if these differences are sample specific, or generally applicable to males and females.

Summary

Although there were few significant findings and obvious weaknesses, this study did raise an interesting question; perhaps it is the J-P distinction, rather than attitude or function types per se, which has the greatest influence on moral development. What this suggests is that people who prefer to function in a perceiving mode (either sensation or intuition) and are constantly gathering information are more likely to develop morally than those who prefer a judging mode (either thinking or feeling) and are constantly coming to conclusions. As far as moral development is concerned, the differences in the bi-polar dichotomies may not be so important as one's preference for a

rational vs. an irrational function. Although such a conclusion must be tentative given the limitations of this study, the implication is that the tendency to be open-minded is more conducive to moral development than the tendency to issue final judgments.

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