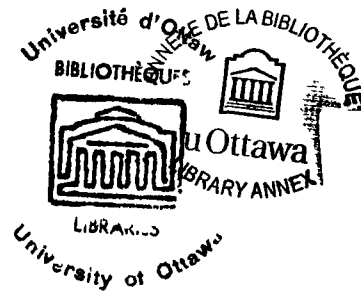


THE RELATIONSHIP BETWEEN LEVELS OF
MORAL JUDGEMENT MATURITY AND LOCUS OF CONTROL

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partial fulfillment of the requirements for
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INTRODUCTION

In recent years psychologists have become increasingly concerned with the development of constructs focusing on the individual's perceptions and expectations of his society and its institutions. As our culture becomes more complex and demanding, it becomes more and more important to investigate the different aspects of a citizen's cognitions, or belief systems of his culture and how these may be interrelated. Two psychological concepts relating to these issues have currently received a great deal of interest and attention. The first of these is the concept of locus of control derived from Rotter's Social Learning Theory (1954, 1966) and the second is the stage theory of moral development presented in its most elaborated form by Kohlberg (1958, 1963, 1964, 1969, 1971, 1975).

Although the two constructs have evolved from differing theoretical frameworks, one would nonetheless anticipate that a relationship would exist between an individual's perception of his ability to control his environment and his socio-moral perspective on the rights and obligations defined by that culture. The rationale for such a relationship may be found in the following factors. Both constructs may be defined as aspects of cognitive functioning, both depend on interpersonal relationships for their development, and finally, both appear to be related to similar types of behavior such as helping behaviors and certain belief systems.

However, the research relating these two constructs is sparse and inconclusive. Consequently, the purpose of this present study will be to examine the hypothesized relationship, taking into account the inconsistencies currently existing in the literature. The study will develop an alternative methodology that will hopefully provide a clearer testing of the proposed relationship between the two variables.

In the first chapter is presented an overview of the two concepts both in terms of the underlying theories and in terms of the pertinent research. Included in this review of the literature is a discussion of the previous research examining the hypothesized relationship between the two variables. The chapter concludes with a criticism of these studies and provides an alternative method of testing the question at issue that should avoid the difficulties encountered by these earlier studies.

This review of the literature and statement of the problem is followed by a chapter describing the experimental design of the project. This chapter provides detailed information on the tests used in the study, on the nature of the subject pool, on the data-collection procedure followed and on the statistical methods employed.

The results obtained from the experimentation are presented in the third chapter and a discussion of these results is presented in the last chapter. The thesis ends with a summary and a statement of the conclusions and by drawing from the present research implications for subsequent research.

CHAPTER 1

REVIEW OF THE LITERATURE

This first chapter will open with a discussion of Kohlberg's theory of moral development and will be followed by a second section describing the theory and research relating to the locus of control construct. These will focus primarily on a review of those studies that examine relationships of direct relevance for the present research. A third section will present a description and discussion of those studies which have previously examined the hypotheses in question. The chapter will include a critique of these studies and will use this critique as a basis for developing a more adequate testing method of the proposed relationship between moral maturity and locus of control. A summary statement of the problem will then be given and the experimental hypotheses will be formally stated.

1. Kohlberg's Theory of Moral Development.

Origins of the Theory: The theoretical basis of Kohlberg's theory of moral development are to be found in two sources, one specific and one more general. The first of these is an early work of Jean Piaget, who in 1932 wrote a book entitled The Moral Judgment of the Child, and the second source is the general point of view espoused by cognitive-developmental psychologists of whom Piaget is one of the foremost examples. This approach, which stresses developmental maturity and associated cognitive changes as the major influences on moral development, may be contrasted to the learning

approach which is the other major point of view in the study of moral development. Before focusing exclusively on the cognitive-developmental theories, a brief overview of the learning approach will be given.

The learning approach, here broadly defined to include both the psychoanalytic and the behavioral theories, focuses on the role of the culture and its institutions as the important factors in moral development. Moralization is basically viewed as a culturally relative phenomenon in which an individual internalizes the external cultural rules as part of a general growth in behavioral and affective conformity. Moral development is thus seen as the incremental growth of those behaviors culturally viewed as moral. The impetus for such internalization is to be found in the child's pursuit of social reward and avoidance of social punishment and mechanisms such as identification and modelling are considered to be important determinants of this incorporation. From this point of view morality is studied through the manifestation of behavioral criteria such as ~~resistance~~ to temptation, or through emotional criteria such as the experience or expression of guilt following transgression of a moral rule.

Returning to the developmental theories, a brief summary of Piaget's theory (based on Berg & Mussen, 1975; Kohlberg, 1963) and of the cognitive developmental approach will be given, followed by a more extensive consideration of Kohlberg's theory.

Piaget's account of the moral development of the child emerged through his observations of Swiss children at play and by intensively

interviewing these children about their attitudes towards rules and the structures of their games. This analysis led him to postulate two major stages in the development of a sense of justice and in the respect for rules and authority.

The first stage, characteristic of children younger than seven or eight, is labelled heteronomous morality and is typified by a unilateral and absolutistic respect for authority and rules. Because the child is cognitively limited by his egocentrism and his pervasive sense of realism, he views moral rules and obligations as external, inflexible entities. Acts are judged as right or wrong in terms of their consequences and justice is seen as whatever reward or punishment those in authority mete out.

The second stage is labelled autonomous morality and emerges during the years eight to twelve. Mutual respect toward other individuals becomes apparent and rules are now seen as the products of group agreement. Intentions and motivations play a greater role in the determination of a moral judgement and equalitarian concepts of distributive justice begin to prevail.

Piaget's theory was highly influential and well typifies the cognitive-developmental approach to morality. Speaking in a more general sense, however, one can isolate the characteristics that guide cognitive-developmental theory in general and which formed the guiding principles of Kohlberg's research in particular. These assumptions have been summarized by Kohlberg (1969, 1975) in the following manner. First, moral development is assumed to have as its

most basic component a cognitive or judgemental function. It is this aspect which is stable from one situation to another and which provides the most direct method of study.

Secondly, this cognitive-structural base is organized in terms of age-linked sequential stages which form an invariant sequence. Each stage is seen as forming a unique and structured whole which provides an organizing framework from which the individual forms his judgements. Furthermore, the sequence of stages is such that each stage represents a more comprehensive, differentiated and integrated framework than the prior structure. Consequently the direction of cognitive growth is always towards greater equilibrium and stability of structure.

Thirdly, the major aspects of this sequential moral development are culturally universal because all cultures have common types of social interactions, institutions, and guiding rules which must be integrated by the individual member of the society.

Fourthly, the basic moral norms and principles are structures which result from the interaction between the organism and the environment through the experiences of social exchange and role-taking opportunities. From this point of view moral development results from the successive cognitive reorganizations of the meaning of the culturally universal values and social institutions.

Finally, it is assumed that the environmental influences leading to moral development are defined by the general quality and the extent of the cognitive and social stimulation experienced by the child.

Through a consideration of these assumptions one can see that Kohlberg's assessment and expectations for his own work are clearly related to those of Piaget, while at the same time representing an elaboration and modification of that developmental stage sequence. These changes consist largely of an extension of the stages to chronologically older and more morally advanced groups and of a reinterpretation of some of Piaget's original assumptions regarding the different aspects and correlates of moral growth. To provide a clearer understanding of Kohlberg's theory, a description of his original research will be given, followed by a resumé of the stages.

Description of the stages: Kohlberg (1958, 1963) initially studied seventy-five males, aged ten through sixteen, by presenting them with a series of moral dilemmas, told in story form, in which acts of obedience to laws and society are in conflict with a human welfare need. The stories were designed to tap a variety of principles of justice and obligations in a number of different kinds of issues and situations. In an open-ended interview situation, the subject was asked how he would resolve the conflict presented in the dilemma and his answers were then probed for the thinking underlying his responses. An extended analysis of the reasoning process (using a Weberian ideal-typological procedure to achieve an optimum combination of empirical and logical consistency) revealed six developmental stages of value-orientation which are grouped into three main levels and which are defined by Kohlberg (1969, 1971) as follows:

I. Preconventional Level: At this first level moral value resides in external quasi-physical happenings or needs and good or bad are labelled and interpreted in terms of the consequences of the action (reward or punishment). At this level, regulations and obligations are experienced as being external to the self.

Stage 1 - The Punishment and Obedience Orientation: The physical consequences of an action determine its value regardless of its human meaning. The avoidance of punishment and the egocentric deference to power are the motivating values.

Stage 2 - The Instrumental relativist Orientation: Here, right actions consist of those which instrumentally satisfy one's own needs. Awareness of fairness and reciprocity are present only in a concretely pragmatic sense.

II. Conventional Level: At this intermediate level moral values reside in the maintenance of the roles and expectations of the family or society. The attitude is not just one of conformity, but of actively maintaining the social order. In contrast to the preconventional person for whom social expectations are external to the self, the conventional person has internalized the rules and expectations and identifies the self with the values of society and of authority.

Stage 3 - Good-Boy Orientation: At this stage the good is defined as that which pleases or helps others and is approved by them. Behavior is now frequently judged by intention.

Stage 4 - The "Law-and-Order" Orientation: The orientation is toward authority and the maintenance of fixed rules. Right behavior consists of doing one's duty and approval or reward from others is earned.

III. Postconventional or Principled Level: At this level there is a clear effort to define moral values and principles which

have universal application beyond the authority holding these principles. There is now a moral commitment to those standards on which a just society should be based. Thus the individual has differentiated his self from the societal rules and expectations and defines his values in terms of self-chosen principles. Again, there are two stages.

Stage 5 - Contractual-legalistic Orientation: There is recognition of an arbitrarily agreed upon starting point in rules and expectations. Duty is defined in terms of contractual agreements which attempt to maximize the welfare of all and avoid the violation of the rights of others.

Stage 6 - Conscience or Principle Orientation: The right is defined in accord with self-chosen principles appealing to logical comprehensiveness, universality and consistency. Specifically, these principles are the universal principles of justice involving the reciprocity and equality of human rights.

The stages outlined above and the underlying theory will be discussed in the following sections in terms of the cognitive-developmental assumptions outlined earlier. Wherever applicable the pertinent research articles will be discussed.

Morality as Moral Judgements: As can be seen from the description of the stages, the focus of interest is, of course, the moral-judgemental component as it is revealed in the reasoning processes of the subject. While recognizing that morality entails both emotionality and behaviors as well as cognitive functioning, the nature of this type of investigation is to examine the developmental sequence through the changes in the thinking and reasoning of the individual. While such an approach does not lead directly to behavioral prediction, Kohlberg (1969) argues that moral judgements are important

in their own right. Society, as well as psychologists, are concerned not only with what an individual does but also with the perspective that individual has on society's rules and with the distinctions he makes between right and wrong action.

However, the relationship between moral judgement and moral conduct has not gone unexplored. For example, correlations of moral judgement maturity with teachers' ratings of moral conscientiousness were .46 and with teachers' ratings of fairmindedness with peers were .54 (Kohlberg, 1969). Another study investigating the relationship between moral maturity and peer ratings of moral character found a correlation of .58 (Kohlberg, 1969).

Other studies have examined the relationship between moral maturity and certain behaviors. For example, in a study of cheating among college students it was found that only 11% of the subjects at stage five or six cheated as compared to 42% at stages three and four (Kohlberg, 1969). Another interesting study involved a post hoc examination of the subjects in Milgram's (1963) obedience study. Kohlberg (1969) reports that 75% of the stage six subjects refused to shock the victim when told to do so while only 13% of the lower stage subjects refused to comply.

In a similar fashion, certain studies have investigated the relationship between moral judgement ratings and the expression of emotionality (guilt) following the transgression of a moral principle. Kohlberg (1964) reports on a series of studies examining the correlates of transgression reactions generated through the experimental

use of projective stories in which the hero violates a rule without chance of detection. The evidence suggests that the direct expression of self-blame or guilt is correlated with the development of moral judgement while emotions expressing anxiety about punishment are not so correlated.

Overall, these studies suggest that while behavioral prediction is not the primary goal of this research, reasonable relationships appear to exist between moral thought and moral action and between moral thought and certain transgression reactions. Kohlberg (1969) suggests that since morality is not a unitary concept, it is not reasonable to anticipate that moral thinking will perfectly determine behaviors. Situational and affective influences also must enter into the prediction. However, he does feel that the research may be interpreted to indicate that the quantitative affective-situational forces are less influential at the principled than at the conventional level.

Universal and Invariant Sequence: Secondly, these stages are viewed as being invariant in sequence, hierarchical, and universal, although any particular individual's development may cease at any stage. Each stage is quantitatively different from the others and constitutes a structured and organized way of thinking about right and wrong and of interpreting and applying the principles of justice. These assumptions are central to the developmental approach and have consequently been the subject of considerable research by Kohlberg and his associates. Generally speaking, the results support the contentions.

Kohlberg (1963) analysed his original data and found consistent age-related trends such that stages one and two decrease with age, stages three and four increase until age thirteen at which point they stabilize and the last two stages continue to increase through age sixteen. Furthermore, the application of a Guttman quasi-simplex correlation matrix to the six categories of responses indicated that the correlations diminished as any two pairs were increasingly separated in the developmental sequence. Longitudinal studies of this group (Kohlberg, 1969, 1971) imply that the sequence is invariant as subjects showed progressive upward movement through the stages as they increased in age. The conclusions of this research have, however, been criticized because the validating subject pool is the original subject group (Kurtines & Greif, 1974) and it is useful to look at a more recent study examining the sequentiality of the stages in a different group of subjects (Kuhn, 1976). In this study longitudinal data were obtained on five- to eight- year-olds over the period of a year. The results showed progressive advancement towards the next stage when measured at the end of the year, although changes measured at the six-month intervals were not consistently progressive.

Finally, a longitudinal study conducted recently (Rest, 1975c) using the Defining Issues Test, which provides an alternative assessment of the Kohlberg sequence of moral thought, also found progressive upward movement among adolescent males and females over a two-year period. In the light of these studies, it would appear that the

progressive nature of the stage sequence is a genuine phenomenon, although support for actual stepwise progression is less clear.

Regarding the universality of the stage sequence, research has been done with children from rural areas of the United States, Turkey, Mexico and Malaysia (Kohlberg, 1969, 1971) using the standard moral dilemmas modified to be culturally relevant in terms of content. Similar age trends were found as had been found with the American children, although development was slower and there was much less thought at the principled level. A more recent study of cross-cultural trends (White, 1975) examined the responses of Bahamian school children to the Kohlberg dilemmas. The subjects ranged from seven-to ten-years of age and the findings demonstrated an age trend in moral development which supports the earlier research. As with the other study, development among these children appeared to be slower as the highest score achieved was stage three.

The stages are said to represent a system of increasingly differentiated thinking. For example, at stage one, moral value is undifferentiated from the material value of objects or from the power to implement rules. At stage two material value and power are differentiated from the needs of the self but moral values still reside in the individual desire. At stage three there is a differentiation of the needs and desires of a socially defined "good" person from those of the individual. At stage four moral value is further articulated and objectified into a concern for rules and a respect for a social order but there is no appreciation of universal rights which may be

said to exist apart from the social order. This final differentiation of universal moral principles from the conventional rules of society occurs only at the most advanced stages of thinking, stages five and six.

A series of studies (Rest, 1973; Rest, Turiel & Kohlberg, 1969; Turiel, 1966) have examined empirically this hierarchical aspect of the stages and their increasing differentiation. Turiel (1966) demonstrated that change is naturally "upwards" and that when change is induced through exposure to moral judgements from stages above or below the dominant stage, the change tends to be to the next highest stage. The next study (Rest, Turiel & Kohlberg, 1969) expanded on Turiel's work and attempted to provide evidence that the stages comprise an order of difficulty of presentation. Subjects were presented with advice statements from stages above and below their own and were asked to choose the most favored response in solving a dilemma. They also discussed the meaning of the statements and this was scored for a measure of comprehension. The results showed that the subjects preferred statements higher than their own and had increasing difficulty in understanding the point of view expressed by the statements representative of more advanced stages than their own dominant stage. They had no difficulty, however, in understanding the ideas expressed by less advanced stages. Rest's study (1973) provided a replication of the above study, correcting for certain design flaws in the earlier work. The results support the same conclusions. Subjects show greatest comprehension of stages near to or below their own dominant stage.

More advanced thinking was less and less easily comprehended. With respect to the preference scores, subjects uniformly rejected the lower stages and preferred the statements from the higher stages.

In conclusion, it would appear that the general assumption that moral reasoning forms a regular developmental sequence of increasingly differentiated and comprehensive stages has received good support in the literature. Although the methodology of some of the earlier studies has been criticized (Kurtines & Greif, 1974), later studies (Kuhn, 1976; Rest, 1975) have supported and replicated most of these results. Thus, progression through the stages is always in an upward direction, although it is not clear that this progression is always in a step-wise fashion.

Antecedents of Moral Development: Kohlberg (1969, 1975) argues that the stages of moral development form one of the fundamental developmental sequences in the growth process and as such the moral stage sequence is intimately related to other developmental stage sequences. The most basic of these sequences are the stages of logical reasoning studied by Piaget. Since moral judgements clearly involve reasoning, it would follow that an individual's ability to reason about moral issues will be limited by the maturity of his reasoning skills in general. Kohlberg (1975) has suggested that the attainment of formal operations must precede the development of principled thought and concrete-operational thinking is necessary for moral thinking at a stage two level. A series of studies have investigated this relationship and the results suggest that there is

a parallel relationship between an individual's logical stage and his moral stage. A study by Fritz (1974) provides support for the hypothesis that concrete-operational thinking must occur for stage four morality to occur.

Kuhn et al (1975) examined adult subjects at the principled stage of morality and found that all of them were capable of formal-operational thought. Similar results were obtained with two samples of adolescent girls (Tomlinson-Keasey & Keasey, 1974). Employing a younger sample (aged four to eight) and using a "positive justice" interview derived from Piaget and Kohlberg, another researcher (Damon, 1975) found that there was a strong association between a child's level of reasoning about justice and his ability to reason at a concrete-operational level in logico-mathematical tasks. This researcher, however, did not find much support for Kohlberg's hypothesis that logical thinking of a certain level must precede moral thinking at that level. Rather, it would appear that development occurs interactively on both dimensions such that the growth of logical thought and moral reasoning are mutually self-supporting.

The other factor which is considered to be obligatory in the attainment of advanced moral thinking and of continued movement through the sequence is that of social interaction or social role-taking (Kohlberg, 1969, 1975). The ability to take the perspective of another person, to differentiate the other's view from one's own is a basic social-cognitive skill and current research (Selman, 1971a; Selman & Byrne, 1974) suggests that there are developmental levels of role-taking as there are in the

development of logical and moral reasoning. Kohlberg (1975) argues that there is a horizontal movement from the acquisition of a logical stage to the appropriate social perceptions and finally to the moral stage. The research cited earlier suggests that there is indeed a parallelism between cognitive and moral growth. Some research exists which suggests a relationship between role-taking ability and moral reasoning. Selman (1971b) demonstrated that conventional moral judgement was in part determined by reciprocal role-taking ability as measured by a hiding and guessing game in eight-, nine-, and ten-year olds. Kuhn (1972) found a significant relation among five- and seven-year olds between another hiding and guessing game measure and moral judgement. A more comprehensive study (Ambrun & Irwin, 1975) of this relationship examined three dimensions of role-taking (perceptual, cognitive, and affective) and found that among five- and seven-year olds there was a significant correlation between role-taking and moral judgement and that the strongest relationship was between the cognitive measure of role-taking and the intentionality dimension of moral judgement. Finally, a study (Campagna & Harter, 1975) of moral judgements in psychopathic and in normal children bears indirectly on the issue of role-taking. The results showed that sociopathic children achieved lower moral maturity scores than did a group of normal matched controls. Since social class and general cognitive level were controlled across diagnostic groups, the authors suggest that the group differences may be related to differential opportunities for identification and role-taking.

Finally, with respect to the antecedents of moral development, a certain amount of research has focused on the role of parents and the differential effects of various child-rearing practices. The results of one study (White, 1973) show that of the examined child-rearing attitudes, perceived parental warmth was correlated with moral advancement. More importantly though, the research (Hoffman & Saltzstein, 1967; Holstein, 1968; Shoffeit, 1971) also shows that the higher levels of moral reasoning and other indices of morality, such as the experience of guilt following transgression, were more regularly associated with parents' use of reasoning and with their encouragement of the child's participation in family discussions of hypothetical moral situations than with disciplinary techniques emphasizing either the use of power or the use of love withdrawal.

In conclusion, with reference to the antecedent conditions concomitant with continued moral development, it appears that both cognitive and social stimulation are necessary for an individual to develop a capacity of mature moral reasoning. The parental (and environmental) contributions seem to lie primarily in the induction of cognitive conflict in the child by encouraging him to reason and consider alternatives and differing points of view in situations requiring moral action.

Sex Differences in Moral Development: The research results pertaining to the growth of morality among males and females is extremely unclear. Kohlberg (Kohlberg & Kramer, 1969) reports that adult women have a lower modal stage score (stage three) than do

adult men who are predominantly stage four. Kohlberg suggests that one's social sex-role may limit one's role-taking opportunities and thus the potential for continued advancement. He feels there is a functional aspect to this sex differentiation such that stage three concordance morality is highly appropriate for a housewife-mother while it is not so for a businessman. This result has been supported by the cross-cultural study by White (1975), in which it was found that the male Bahamian adolescents were more morally advanced than were females of the same age, and by an earlier study (LeFurgy & Woloshin, 1969) which used Piaget's definitions of moral stages and found that females were much more likely to employ moral realism in their dilemma-solving than were males. However, several studies report no differences between males and females in terms of their moral development (Hoffman, 1975; Keasey, 1972; Sullivan, McCullough & Stager, 1970) and other studies (Hoffman, 1975; Porteus & Johnson, 1965; Rest, Cooper, Coder, Masanz & Anderson, 1974) find that the females subjects receive higher scores of moral maturity than do the males. Since these studies have used a variety of different measures of moral maturity, such as the Kohlberg scale, some application of Piaget's stages, and the projective story completion technique, it is difficult to compare these results or reach any kind of interpretation. However, it would appear that the possibility of differential sex differences in the growth of moral maturity is indicated in the literature.

2. Locus of Control

Origins of the Construct: The concept of internal-external control of reinforcement is a variable derived from the Social Learning Theory described by Rotter (1954, 1966, 1975). The theory represents an attempt to integrate the major dimensions of stimulus-response reinforcement theories of learning with certain aspects of the cognitive theories. The theory asserts that there are four classes of variables: behaviors, expectancies, reinforcements and psychological situations. These variables are interrelated such that one may define a behavioral potential as a function both of the value of the reinforcement and of the expectancy that following that behavior the expected reinforcement will occur. In this context locus of control pertains to an expectation regarding the nature of the anticipated reinforcement. It is, in effect, an expectancy related to the degree to which a person believes that his reinforcements are the result of his own behavior and therefore controllable or whether they are perceived as unrelated to his behavior and beyond personal control. An individual who believes that reinforcements are contingent upon his own behavior is referred to as having an internal locus of control. Conversely, an individual who believes that the reinforcements in his life are under the control of luck, chance, fate, or powerful others, is described as having an external locus of control. The construct is conceived of as being a generalized expectancy that develops out of the sequencing and patterning of past reinforcement experiences. Based on this past history, an individual

develops a rather consistent attitude toward the source and the predictability of reinforcement.

Active research began in 1957 when the first experimental measures were derived. Since then well over six hundred published studies have appeared as well as alternative measuring devices. However, the most widely recognized and most extensively used measure of locus of control is the I-E scale described in Rotter's (1966) monograph which also provides full sample norms and psychometric information. The scale was further described as a unidimensional forced-choice test made up of twenty-nine items each of which consists of a pair of alternative statements, one internal and one external. This scale will be described in greater detail in a further chapter.

As indicated by the number of articles dealing with some aspect of internal versus external locus of control, the investigated content areas of this construct are virtually limitless. The aim of this review will be to provide a summary of the research that bears some direct relevance to the topic under consideration in this study and will thus focus on locus of control research in the following areas: 1) cognitive activity; 2) factor analytic studies; 3) familial antecedents; 4) prosocial behaviors, beliefs and affects, and 5) sex and social class differences. These areas have been selected because they help build the rationale for anticipating a relationship between perceived locus of control and moral judgement maturity.

More specifically, the review will indicate that the locus of control concept has been meaningfully related to some of the areas

discussed with respect to moral judgement development: cognitive activity, parental antecedents, and certain types of "moral" behaviors and emotions. The discussion of sex and social class differences and of the factor analytic studies provide a rationale for the methodology to be used in this study.

Cognitive Activity: Much of the early research on locus of control emphasized the exploration of differences evidenced in learning situations by internally-oriented and externally-oriented people. However, more recently a series of studies have demonstrated that the locus of control construct can also predict a more basic dimension of general cognitive alertness. In effect, it appears that internal subjects are more sensitive to and curious about their environment and appear to be more actively engaged in interactions with their surroundings.

For example, two early studies (Seeman, 1963; Seeman & Evans, 1962) found that when internals and externals were examined regarding the amount of objective information of a personally relevant nature that they had extracted from their environments, the internal subjects scored much higher. Specifically, in one study it was found that hospitalized tuberculosis patients with an internal orientation knew more about the disease and their condition than did externals (Seeman & Evans, 1962). The second study examined reformatory inmates and found that the internal subjects had obtained and recalled more information about their parole possibilities than had externals (Seeman, 1963).

More recent studies focusing on different aspects of cognitive processing have demonstrated that internals are more attentive to the environment as measured by decision time, are better able to extract and effectively use available information, and show more efficient learning strategies in a learning situation. The results from the studies measuring the amount of time spent in reaching a decision in an experimental task situation show that first of all, internals take longer when the task is perceived as skilled than when the task is perceived as a function of change but that external subjects do not show this difference (Lefcourt, Lewis & Silverman, 1968; Rotter & Mulry, 1965) and secondly, that internals take longer when the task gets more difficult but that externals spend the same amount of time regardless of changes in the types of task (Julian & Katz, 1968). The study examining learning strategies (Bartel, DuCette & Wolk, 1972) used by internals and externals presented the subjects with a series of twenty-five words to be learned. It was found that while there were no differences in terms of total recall performance, the internal subjects consistently developed more active and efficient strategies (the use of clustering) when confronted with this type of information-processing task. Finally, a series of studies show that internals more readily extract information and cues from experimental situations (Ude & Vogler, 1967) and that they make better use of the extracted information in a problem-solving task (DuCette & Wolk, 1973; Lefcourt & Wine, 1969; Phares, 1968). In the first study (Ude & Vogler, 1967) awareness of reinforcement contingencies was the dependent variable and it was found

that internal subjects became aware of these contingencies more rapidly than did externals. The second study by Phares (1968) demonstrated that when groups of internally- and externally-controlled subjects learned a series of information items to the same criterion of one perfect trial, the internals made greater use of this information in a subsequent computer simulation task. In the Lefcourt and Wine (1969) study the authors found that in skill-oriented tasks the internals were more attentive to the relevant situational cues which would lead to greater understanding of the situation and consequent better performance. In the last study the subjects engaged in several tasks where the opportunity for the extraction and use of information leading to successful task completion varied. The tasks included estimation of task success, both with and without prior feedback, and the determination of the operative rule in a nonverbal skill task. The results indicated that the internals were more accurate in estimating successes when feedback was provided and that they more quickly devined an invariant rule from an ambiguous situation and used this rule to solve a problem.

The overall results from these experiments are fairly clear in supporting the hypothesis that internal subjects are more perceptively and cognitively alert to environmental stimuli in a very pervasive and general manner. Not only are they better able to extract and recall relevant information but they can make better and more efficient use of this information in problem-solving tests. It may be suggested that this active cognitive dimension found in internal subjects

provides them with a greater potential for effective functioning in their social environments - a factor which would lead to greater opportunities for social interaction and role-taking and would facilitate advanced maturity along the developmental sequences of logical and moral judgement stages.

Familial Antecedents: The earlier discussion of parental correlates of moral development suggested that parents who encourage independent thinking in their children tend to have more morally advanced off-spring. A review of some of the studies examining the family backgrounds of internal versus external subjects reveals that some of the features of the internally-oriented subjects' backgrounds are similar to those of subjects showing advanced moral maturity. Internally-oriented subjects tend to come from warm and nurturant families in which the child's sense of autonomy and competence was fostered through the parents' attitudes and tempered use of control. Loeb (1975) observed fourth and fifth grade boys individually in interaction with their mother and father in a structured-task situation and in a Family Rorschach. External sons more frequently had highly directive parents who made decisions for the child and carefully regulated his behavior. The internal childrens' parents employed a less directive, more suggestive mode which permitted the parent to be actively involved in the child's activity while leaving the child ample opportunity to make his own decisions. The parents were also rated for types and occurrence of reinforcement during the tower building task but this variable was not related to the sons' locus of control.

Three other studies report similar results. Katkovsky, Crandall and Good (1967) correlated childrens' I-E scores with home observations of maternal behavior as well as with interview and questionnaire data assessing the parents' child-rearing attitudes and reactions. The overall findings indicated that parental behaviors characterized as warm, praising, protective and supportive were positively associated with an internal locus of control while punitive, rejecting and critical behavior was associated with an externally oriented locus of control. Davis & Phares (1969) also examined parental correlates of extreme groups of internal and external children using the Children's Reports of Parental Behavior Inventory. Again it was found that nurturant, accepting, parental behavior was correlated with the possession of internal beliefs in the children as was more consistent discipline on the part of the parents. Furthermore, no direct relationship was found between the childrens' I-E beliefs and those of their parents - a result which would conflict with a modelling explanation of the transfer of behavior. In a last study to be reviewed, retrospective reports of parental behavior were collected from forty-two college undergraduates (MacDonald, 1971). Stronger internal orientations were held by subjects who described their mothers as being more nurturant, having more predictable standards of acceptable behavior and as using more achievement pressure. Their fathers were also described as more nurturant and, among the males, as using more physical punishment. On the other hand, externals characterized their mothers as more protective, and more inclined to use withdrawal of affection and privileges as a means of punishment.

Overall, the studies lead to the conclusion that parents who provide a warm and supportive home life which helps the child develop a sense of autonomy and self-mastery tend to have internally-oriented children. The important variable appears to be this perception of a nurturant family background rather than specific disciplinary techniques or uses of reinforcement.

Prosocial behaviors, Affects and Beliefs: A series of studies have examined the interaction of the locus of control construct with certain types of behaviors, beliefs, and emotional sequelae that are of relevance to the moral judgement maturity concept. For example, the following studies found that helping behavior was elicited more frequently in subjects with an internal locus of control than in external subjects. In the first study (Midlarksy, 1971) scores on a modified form of the I-E scale were correlated with aiding behavior, here operationally defined as behavior in which the subject voluntarily accepted certain undesirable consequences in order to reduce the effects of these consequences incurred by another. The results of this research were replicated in a study which examined similar parameters as defined above (Midlarksy & Midlarksy, 1973). The study also indicated that of all the personality variables investigated in this study (which also included social responsibility and social desirability) only locus of control was significantly related to altruistic behaviors. Finally, a third study (Ubbink & Sadava, 1974) investigated the reactions of internal and external subjects to individual solicitations for assistance and for intervention. In

support of the previously outlined studies, internals were again found to respond more often with helping behavior than were externals.

Another series of studies have examined the relationship between locus of control and performance on projective story completion tasks in which the central character violates a conventional norm. Adams-Webber (1969) presented university students with two story beginnings in which the hero engages in immoral behavior (cheating and causing the death of another through negligence). The results demonstrated that subjects with an internal locus of control tended to write story endings involving guilt and self-blame while the externally oriented subjects produced story endings in which the protagonist fears punishment by an external agency, projects blame onto other people and denies any feelings of personal responsibility or guilt. A second study (Jacobowitz, 1975) examined locus of control correlates of moral transgression in nine- to fourteen-year-old children and similar results were obtained. Using Afronfreed's open-ended moral transgression stories, the author found that the children with an internal locus of control tended to produce self-critical "moral" responses as opposed to the externally directed and "get away with it" types of responses produced by the externally oriented subjects.

Finally, of interest to the current study is the research now being conducted on the "belief in a just world" concept (Zubin & Peplau, 1975). These researchers suggest that despite objective evidence to the contrary, many people maintain the belief that the world is a just place in which an individual's merit and his fate are closely related.

For these individuals, justice consists of the rewards going to the "good" and worthy people and of the punishment being given to those who are "bad". There is, consequently, an implicit acceptance of the "correctness" of the bodies of authority and its rules and regulations. This construct is suggested by the authors to bear some similarities to the Kohlbergian analysis of the developmental sequence of moral judgements such that individuals at both levels one and two would maintain beliefs in a just world, albeit for different reasons. Only at level three would the individual be more willing to challenge the actions of legitimate authority when they conflict with higher standards of justice, and thus be more inclined to abandon the belief in a just world. Within this context, then, it is interesting to note that moderate correlations have been found between the belief in a just world (as measured by the Just World Scale) and scores on the I-E scale (cf., Zubin & Peplau, 1975). The findings suggest that this type of belief system is associated with an internally-oriented locus of control.

In summarizing these studies on cognitive activity, familial antecedents, and prosocial correlates, it appears that while none have directly examined locus of control interactions with moral judgement maturity, they do maintain a logical consistency with this relationship. More specifically, all of these dependent variables that have been reported as interacting with the locus of control construct bear a theoretical or logical affinity with the maturity of moral judgement concept and thus provide a more systematic rationale for examining the

relationship between perceived locus of control and moral judgement orientations. Specifically, it would appear that many of the attributes associated with greater internality of perceived control are also to be expected in the individual who shows more mature moral reasoning and comprehension. On the other hand, the external orientation would appear to be associated with more primitive and less internalized types of thinking and behaving and thus one would anticipate that an externally oriented individual would demonstrate a less advanced type of moral judgement process.

Factor Analytic Studies of Locus of Control: Rotter, in his major monograph on locus of control (1966) asserted that the factor analysis of the I-E scale revealed a unidimensional concept with one major factor accounting for a considerable proportion of the variance. This assertion has, however, been repeatedly attacked in recent years.

The first published report to seriously question the factor structure of the I-E scale was conducted by Gurin, Gurin, Lao and Beattie (1969) who found four factors for a sample of 1,695 Negro students. These factors were labelled: I Control Ideology; II Personal Control; III System Modifiability; and IV Race Ideology. Subsequent to this study Mirels (1970) performed a factor analysis of the I-E scale in which a varimax rotation identified two distinct factors. The first factor, labelled Personal Control, centered on a belief concerning felt mastery over the course of one's life. The second factor was labelled Control Ideology and showed a concern over the extent to which the individual citizen is deemed capable of exerting any influence on political or social institutions.

These results have been fairly well supported by subsequent research. Abrahamson, Abrahamson & Schludermann (1973) repeated Mirels' factor analysis on I-E scale data collected on Canadian male and female college students. The analysis indicated that the two factors reported by Mirels also held up for this sample. The authors also reported the presence of a third interpretable factor that dealt primarily with the question of control over personal likeability. In addition, two other separate replications of the Mirels factors have been reported by Viney (1974). Joe and Jahn (1973) report on a factor analysis of the I-E scale in which the response format was altered from its standard dichotomous-score form so as to provide continuous data suitable for the calculation of the product-moment correlation. Using this method to increase the range of the possible scores, the authors isolated two factors with more robust characteristics than the earlier factor analytic studies. These factors are in accordance with those identified by Mirels although in this instance the first factor is substantially more important than is the second.

Abramowitz (1973) also provided a testing of the dimensionality of the I-E scale and of Mirels' two subfactors. On the basis of their responses on the I-E scale, subjects were assigned three scores. The first was based on responses to all of the items and the other two were based respectively, on responses to the political items and to the nonpolitical items. The main findings revealed that the two item clusters from the I-E scale were uncorrelated and that these two factors functioned independently in relation to predicting commitment

to social-political action, a research area of active concern in the locus of control literature. Specifically, it was found that political commitment was predicted by scores on the political I-E items but not by scores on the nonpolitical items or on all of the items.

In general, these factor analytic studies of the locus of control scale support the contention of a multidimensional construct rather than a single factor. However, the most meaningful validation of this phenomenon will be the repeated demonstration of differential predictive powers of the subfactors to logically related concepts and behaviors.

Sex and Social Class Differences: Although Rotter (1966) stated that sex differences on the I-E scale among college students appeared to be minimal, more recent studies suggest that this may not hold unilaterally. Two studies by Feather (1967, 1968) showed that females earned significantly higher external scores than did males at a university in England. Two more recent cross-cultural studies (Nordholm, McGinnies, Ward & Bhanthumnavin, 1971; Parsons & Schneider, 1974) which analysed I-E scale responses among university students from a broad cross-section of western and eastern societies found that, on the whole, females were more external than were the males.

The results of another investigator (Hochreich, 1975) who examined the I-E scale for the existence of sex-role stereotypes, support the suggestion that the locus of control construct may be different for males and females. The findings of the study confirmed

the existence of sex-role stereotypes with regard to internal-external control of reinforcement. The extremely masculine male is viewed by subjects of both sexes as a person who believes that he controls his own outcomes in life. The extremely feminine female, on the other hand, tends to be seen as one who believes that what happens to her is determined by luck, fate or the influence of powerful others. Comparisons of the subjects' own scores with their I-E stereotypes reveal that males do not, in fact, respond to I-E items as they think an extremely masculine person would. However, the females did actually respond to the I-E items in a fashion that is not significantly different from their stereotype of the extremely feminine woman.

Differences in attitudes of internal-external control between ethnic groups and social classes have been repeatedly demonstrated (cf. Joe, 1971; Rotter, 1966). The results are fairly consistent in indicating that Negroes and lower-class individuals have higher external scores than white and middle-class individuals.

In summary, the results of these investigations of sex and social class differences suggest that differences on the I-E scale do, in fact, pertain, both between males and females, and between different socio-economic classes. Particularly when analysing relationships between locus of control and other personality variables, it may be important to consider those differences in order to achieve meaningful and consistent results.

3. Locus of Control and Moral Judgement

Logical and Empirical Similarities: In the preceding two sections of this chapter a series of studies pertaining to the two variables of interest in this study - locus of control and moral judgement development - have been reviewed. With both of these concepts, the reviews have focused on those studies in which the experimental variables provide a basis for defining a relationship between these two constructs. These factors will be summarized in the following paragraphs.

Both concepts reflect on aspects of cognitive functioning. With respect to the moral judgement construct, the cognitive dimension is inherent in the definition of the construct. Furthermore, it appears that cognitive activity and cognitive stimulation in a general sense are necessary for its continued development. Locus of control also refers to a cognitive function since it is defined as an expectancy variable mediating between stimulus and eventual response. Furthermore, it, too, has been shown to have correlates and consequences with respect to cognitive alertness and activity.

Secondly, the development of either factor depends, at least in part, on the interpersonal and familial contexts in which the individual finds himself. In the cognitive-developmental theory of moral development, moral judgement orientations evolve out of the interaction between the cognitive-logical structures of the individual and the structures and organization of his social environment. The

quality and impact of this social experiencing and role-taking is thus very important in determining the ultimate nature of an individual moral orientation. Likewise, development of an internal or external locus of control is inevitably influenced by the nature of the social environment in which an individual finds himself. Not only the quality of familial interaction, but also such determinants of social environment as sex-role and social class affiliation have been shown to bear differential relations to the growth of one's perceptions of the locus of control of reinforcements. While role-taking experiences per se have not been indicated as a correlate of locus of control, other related factors such as the encouragement of autonomy and independence of action have been cited as significant antecedents of an internal locus of control. Thus, on the basis of the literature reviewed, it would appear that the two aspects of personality may be fostered by similar types of environments. A home context which is warm and consistent and which provides ample opportunity for independent decision-making and thinking has been implicated in the familial antecedents of both an internal locus of control and more mature moral judgement processes.

Finally, the review indicates that the two concepts have been independently related to similar types of behaviors, beliefs, and affects. On the one hand, an internal locus of control has been related to more altruistic and helping behaviors, to the experience of guilt and self-blame following the transgression of a moral norm, and to the belief in a Just World. On the other hand, more advanced moral

judgement capacities have been observed among individuals experiencing guilt and self-criticality following moral transgressions and these more morally mature individuals also seem to show a greater capacity for "moral" altruistic behavior that may conflict with the demands of the authorities.

Discussion of Earlier Studies: Despite these logical and empirical indications of an interaction between perceived locus of control and moral judgement orientations, the literature examining this effect is sparse and the obtained results are inconclusive. To date, four studies have reported on attempts to relate locus of control with moral judgement levels and the integration of the two variables still remains unclear.

The first study which presented data relevant to this issue was an investigation of developmental correlates of field dependence-independence (Arbuthnot, 1971) in which both Kohlberg's moral judgement scores and Rotter's I-E scores served as dependent variables. The sample consisted of fifty junior and senior high school males from lower-middle class socio-economic backgrounds. Although a moderate correlation was anticipated between the dependent variables, the calculation of a Pearson product-moment correlation coefficient failed to reveal a significant relationship between locus of control and moral judgement ($r = -0.26$) although there was a trend in the anticipated direction.

Bloomberg (1974) attempted to verify Arbuthnot's results using a different population. He collected data from fifty-three college

undergraduates (fourteen of whom were later excluded from many of the analyses) using Rest's Defining Issues Test (Note 1), a test which provides a more objective and standardized measure of Kohlberg's moral maturity concept. Likewise, he found little evidence of a correlative relationship between locus of control and moral judgement scores although the results did show that the internal subjects chose a significantly greater average percentage of items which exemplified stage six thinking.

A joint examination of these two studies indicates that although trends in the expected direction may be discerned, none of the measures of relationship between locus of control and moral maturity proved significant. However, it is suggested that this failure may be due to methodological, rather than conceptual, inadequacies. First, both studies used samples which were very homogeneous in terms of age and socioeconomic background. Secondly, the sample sizes were small with respect to the demands of some of the statistics calculated. For example, Bloomberg analyzed the proportions of internals and externals within each moral stage. However, with only thirty-nine subjects, the frequency within each cell was, of necessity, highly restricted. At stage two, for example, there were only two subjects. Third, neither study analysed their data for sex differences - a factor which has been shown to have differential effects on both of these variables. Finally, in both studies Rotter's I-E scale was assumed to be measuring a unidimensional factor. However, based on the results of the factor analytic studies of this scale, such an

assumption may not be feasible in this context. If the relationship between locus of control and moral maturity had been analysed in terms of the subfactors contained within the I-E scale, the possibility for a significant effect to appear may have been enhanced. Thus it is suggested that an examination of this relationship utilizing a single overall I-E score as a measure of locus of control, rather than separate scores for different factors, may be obscuring a genuine relationship.

Two studies have been reported which have taken into account some of these factors in their analyses of the relationship between the two variables. Alker and Poppen (1973) administered to 192 male and female college students a large battery of tests of political, ideological and personality traits in conjunction with the I-E scale and Kohlberg's moral judgement interview. In addition to the total I-E score, separate sub-scores were calculated for each subject on the personal control factor and the political ideology factor identified by Mirels (1970). The results revealed two significant correlations. First, the total locus of control score correlated significantly (-0.40) with a Principled versus Pre-conventional separation such that greater internality was associated with principled moral thinking and externality was associated with Pre-conventional thinking. Secondly, the separate analyses of the personal and political sub-scores with this Principled/Pre-moral separation revealed nonsimilar results. While an external personal locus of control showed a significant negative relationship with the endorsement of principled moral orientation ($\underline{r} = -.45$), impersonal or political externality was not significantly related to moral judgement ($\underline{r} = .11$). Although separate

analyses were performed for the males and females, the authors do not report the results of these analyses for the variables of interest here.

Snyder (1974) also provided a testing of this relationship. One hundred and ninety-one college students (154 females and 57 males) were administered the Defining Issues Test, Rotter's I-E scale and a test of moral values, the Survey of Ethical Values. A factor analysis was performed and subscale scores were calculated on the two factors which were isolated (the item loadings were highly similar to those obtained by Mirels, 1970). However, the findings of this study failed to reveal any significant relationships for any of the locus of control scores with the moral judgement scores.

Thus, while it has been suggested that the use of a multi-dimensional approach to the I-E scale and the use of larger samples would facilitate the appearance of the hypothesized relationship between locus of control and moral maturity, the results from these last two studies are not at all definitive. A significant relationship was reported in one study while nonsignificant results were obtained in the other. One possible reason for this discrepancy may be found in the nature of the samples. While both investigations employed fairly large samples, neither were sufficiently large to permit adequate testings of these relationships for males and females separately. Furthermore, in both studies, but particularly for the Snyder study, the subjects were very homogeneous in terms of age, socio-economic class and background experiences. It may be that the utilization of such groups of full-time undergraduate college students

may result in a too severe restriction of the range of scores on either variable. Such reduced variability would mitigate against the possibility of obtaining consistent significant correlations.

Thus it is suggested that in order to adequately test for the existence of a relationship between locus of control and moral judgement maturity, all of the above-mentioned factors must be considered. Thus, the sample should be large and should contain adequate numbers of males and females so as to permit the analyses to be performed separately for sex as well as for the total group. Furthermore, the experimental sampling procedures should attempt to maximize heterogeneity in the sample rather than drawing exclusively on the restricted population represented by college undergraduates. Finally, not only the total I-E score should be considered in the analyses, but also the factor scores resulting from a factor analysis of the I-E scale should be considered separately with respect to the moral judgement score.

The present study will attempt to demonstrate that the proposed relationship between locus of control and moral judgement maturity does indeed exist when these factors are accounted for in the methodology of the study. Particular attention will be paid to the manner in which subjects are recruited so as to produce a sample which is large, which is heterogeneous in terms of age, educational background and socio-economic status, and which contains equal numbers of males and females. Furthermore, the proposed relationship will be examined taking into account the possibility that the locus of control construct is not a

single factor but a multidimensional one. Therefore, the study will involve a factor analysis of the locus of control measure to determine the existence of subfactors that may be correlated separately with the moral judgement measure. Finally, the study will take into account the possible differential effects of sex on the interaction between locus of control and moral judgement maturity by performing all of the proposed analyses separately for the males and the females.

4. Summary of the Purpose and of the Experimental Hypotheses

The purpose of this study is to investigate the relationship between locus of control and moral judgement orientation. It is also the purpose of the study to demonstrate that meaningful subfactors can be isolated within the locus of control variable and to demonstrate that these factors will relate differentially to the moral judgement construct. A final purpose is to examine these relationships separately for sex in order to determine whether this variable exerts a differential effect on the proposed relationship.

These goals may be summarized and stated more formally in terms of the following three experimental hypotheses.

Null Hypothesis I: Individuals differing in terms of the maturity of their moral judgement capacities will not show any significant differences in their perceived locus of control, whether the data are analysed separately for sex or analysed as a whole.

Alternate: Individuals showing more mature moral judgement capacities will show greater internality in their perceived locus of control. This will hold both for males and for females.

Null Hypothesis II: The factor analysis of the I-E scale of locus of control will not produce any meaningful subfactors, whether the data are analysed separately for sex or not.

Alternate: Meaningful subfactors will be found through the factor analysis of the I-E scale. These subfactors will be apparent both for the males and for the females.

Null Hypothesis III: Given that meaningful subfactors can be extracted from the I-E scale by factor analysis, individuals differing in their level of moral maturity will show no significant differences on any of these subfactors.

Alternate: The I-E scale subfactors will show significant relationships to the moral judgement scores. The relationships will differ from one factor to another and from one sex to the other.

CHAPTER II

EXPERIMENTAL DESIGN

This chapter presents the design and methodology used to examine the hypotheses outlined in the foregoing chapter. The section opens with a description of the tools, a discussion of the rationale for their use and of the scoring procedures followed. The second section provides an outline of the subjects who participated in the study. In the third section the data-collection procedures are discussed. The chapter concludes by examining the statistical procedures used to analyse the data.

1. The Tools

The measurement instruments used in this study were the Internal-External Scale (Rotter, 1966) and the Defining Issues Test (Rest, Note 1). The subjects also completed the Crowne-Marlowe Social Desirability Scale (Crowne & Marlowe, 1964) and provided certain demographic and biographic information. Each of these instruments is described in greater detail below.

Internal-External Scale: This pencil-and-paper test of locus of control consists of twenty-nine pairs of forced-choice items (six of which are fillers) which reflect the degree to which an individual feels that he can exert control over events in his life (See Appendix 1 for an example). Each pair of items contains one statement reflecting an internal locus of control and one reflecting an external locus of control. The test items are not arranged in any kind of

hierarchy but rather represent samples of attitudes in a variety of different situations.

As the locus of control construct has been extensively researched over the past ten years, its reliability and validity are well established. Information pertaining to these two issues have been documented and are summarized in several reviews (Hersch & Scheibe, 1967; Lefcourt, 1972; Rotter, 1966) to which the reader is referred. These reviews report reliability measures which are quite consistent. The test-retest reliabilities range from .48 to .84 for varying samples and for intervening time periods of from one to two months. Internal consistency estimates of reliability have ranged from .65 to .79, with nearly all correlations in the .70's.

With respect to validity indicators, Rotter's (1966) report of strong discriminant validity is supported by low correlations with such variables as intelligence, social desirability and political affiliation. These results were repeated by Hersch & Scheibe (1967) who found nonsignificant correlations between I-E total scores and three different measures of intelligence. In addition, Rotter (1966) indicates several studies which add to the construct validation of the locus of control concept by significantly relating it to variables such as differential learning and differential evaluations of skill or chance tasks.

Standard instructions and scoring procedures were utilized. A high score indicates perceived external control.

Defining Issues Test (DIT): This test was employed as the measure of moral maturity achieved by each subject. (See Appendix 2 for a sample of the test). Derived from Kohlberg's theory of moral development, the DIT provides an objectively scored and group-administered measure of moral judgement capacity that avoids many of the psychometric difficulties arising from the Kohlbergian interview technique of assessment (cf. Kurtines & Greif, 1974). These difficulties include a lack of standardized scoring and administration procedures, difficulty of scoring, and a relative absence of reported reliability coefficients. Because the DIT provides a greater reliability and ease of scoring, it was selected for use in this study rather than the interview technique.

The DIT consists of six moral dilemmas adapted from Kohlberg's interviews which are followed by twelve stage prototypic statements (also derived from Kohlberg's work). The subject is first asked to rate each of the statements on a five-point likert scale in terms of the statement's relative importance in reaching a decision with respect to the dilemma presented. The subject is then asked to select and rank order the four most important of these statements. These final rankings are used in the calculation of the actual index of moral maturity referred to as the P-score.

It should be noted that while the DIT assumes the basic theoretical approach of Kohlberg's work, because of the difference in methodology, it cannot be considered to be measuring exactly the same phenomena. Rest (1974a, 1975b) outlines some important aspects in

which his test differs from the Kohlbergian interview technique and an examination of these issues may further clarify the properties of the DIT.

The first issue concerns the nature of the data source. Kohlberg's assessment requires a subject to spontaneously generate a new solution to a problem and then has a judge allocate a subject's responses to data categories. The DIT asks a subject to evaluate various considerations provided by the examiner and consequently to classify his own responses. The DIT, then, is more of a recognition task than one of production and subjects are thus likely to show more advanced moral thinking (more use of principled thinking) on the DIT. It is suggested that this discrepancy is quite reasonable within the context of a developmental theory since recognition and discrimination generally precedes the ability for original production. Thus it may be that Kohlberg's task under-estimates a subject's ability to recognize and discriminate principled thinking whereas the DIT would overestimate their ability to produce it.

A second issue is concerned with the manner by which to index development. The traditional Kohlbergian method has been to allocate a subject to one of the six stages on the basis of his responses in the interview. Rest (1975b) suggests that this is misleading since subjects are never entirely within one stage and any one protocol contains indications of different stage thinking. Thus to assign a subject categorically to one stage based on predominant usage of that stage is an oversimplification. The DIT provides a continuous index

(the P-score) which locates a subject's development in terms of the relative importance he gives to principled moral thinking. This method avoids the arbitrary nature of stage-typing based on predominant usage as well as indirectly including in the final index an indication of the discrepant information caused by mixed stage usage.

Thus, while the two assessment techniques assume the same theoretical basis, because of these differing methodologies, they tap different aspects of the same phenomena.

While data concerning the psychometric robustness of the DIT are limited due to the recency of its development, the initial results are encouraging. A first study of the DIT (Rest et al, 1974) examined the protocols of 160 subjects drawn from four different educational levels - junior high, high school, college and graduate school. This latter group was composed of seminarians and doctoral students studying moral philosophy and political science. The results indicated that the more advanced groups showed a clear increase in the P-score as well as a substantial decrease of lower stage usage. A significant correlation of .62 was found between age (as an indication of developmental maturity) and the P-score. Test-retest correlations based on the twenty-eight ninth graders were in the .80's.

In addition to these developmental trends, convergent-divergent correlation patterns were also significant. Substantial Pearson correlations (.60's) were found with a cognitive capacity measure of comprehension of social concepts, with measures of moral-political attitude, and with stage scores derived from Kohlberg's scale. On the

other hand, lower correlations were found with socio-economic class (.17). Statistically partialling out the effects of IQ and sex left a significant correlation of .50 between the P-score and comprehension.

The DIT manual (Rest, Note 1) provides further validating information. Sixteen studies involving over 1,500 subjects are reviewed and the average group P-scores reported in these samples fit closely with those originally described (Rest et al, 1974). Results are also reported from studies examining change following explicit moral/ethical educational experiences. Significant upward change was found following these enrichment experiences as compared to no significant changes following exposure to regular courses in logic or philosophy.

A more recent study (Rest, 1975c) reported on the pattern of longitudinal change - an integral aspect of a developmental theory. Eighty-eight former junior and senior high school students who had been tested in a previous study (Rest et al, 1974) were re-tested following an interval of two years. Significant developmental change was found with all subjects showing increased usage of principled moral thinking. The younger subjects also showed shifts from pre-conventional to conventional thinking. Test-retest reliability over two years was .68 for the younger group and .54 for the older group.

Finally, a recent study examined the susceptibility of the DIT to faking (McGeorge, 1975). Subjects were unable to fake upward although they could fake downward. The results support the general theory of a sequential developmental pattern of moral judgement such

that subjects recognize lower stages as immature and can respond correctly when asked to fake downward while higher stages are relatively inaccessible and thus preclude upward faking. This study also reports a test-retest reliability of .65 (eighteen day interval). The author suggests that this correlation is attenuated by a restricted range of scores.

In conclusion it would appear that the initial testing of the DIT gives support both to Kohlberg's theory of moral development and to a new and alternative method of moral judgement assessment. While still in the experimental stages and subject to further refinement, the DIT gives evidence of providing an objective and valid method of assessing the maturity of an individual's moral thinking capacity.

Numerous scoring indices may be derived from the DIT. However, Rest (1975b, Note 1) strongly suggests the use of the P-score as the most useful index and the scoring procedures for this study involved the calculation of that measure. The P-score index of moral maturity is defined as the proportion of weighted rankings assigned to principled moral thinking (stages five and six). The scoring takes into account only the four ranked statements which follow each moral dilemma. These ranked items are converted into the moral stage which they were designed to represent. An item ranked first or most important is given more weight than an item ranked second, third or fourth, since these items had less importance to the subject. Thus the first choice receives a weight of four, the second a weight of three, the third a weight of two, and the least important a weight of one. This weighting

process is carried out for each story, with four entrees for each story and resulting in twenty-four entrees altogether. (See Appendix 3 for an example of a scoring sheet). The P-score is then calculated by adding together all the weights assigned to stage five and to stage six items. This sum is divided by 60 so as to be expressed in terms of a proportion. The P-score can vary from 0 to 95 rather than 100 since on three of the dilemmas there is no fourth possible principled item to choose.

Marlowe-Crowne Social Desirability Scale: This scale consists of thirty-three statements expressive of culturally approved attitudes and traits and yet which are untrue of almost all people (see Appendix 4). The items were also constructed so as to have minimal psychopathological implications. The subject is asked to decide whether each of the statements is true or false for him personally. Eighteen items are keyed true and fifteen are keyed false. A high score indicates a high degree of social-desirability response set.

Crowne and Marlowe (1964) in the detailed presentation of this scale, report good reliability estimates. Using the Kuder Richardson formula 20, the internal consistency of the scale was .88. They also report a test-retest correlation of .88. Furthermore, they review many studies which attest to the construct validity of this scale by demonstrating significant relationships with other meaningful concepts and related behaviors.

This scale was administered as a precaution in order to determine whether this response set was influential in determining the scores

obtained on either the I-E scale or on the DIT. As such it may be considered as supplementary data and will only enter into the data analysis if substantial correlations are found with either of the principal measures.

Demographic Data: In addition to the three scales described above, subjects were also asked to supply certain biographic information. This included age, sex, maternal language, level of education completed, occupation, and the occupation of the parents. Occupational status was used to determine socio-economic status (see Appendix 5 for a sample of the cover sheet for collecting demographic data).

2. The Subjects

Three hundred and thirty-six students enrolled in three Ottawa universities/colleges served as subjects for this experiment. Of these 175 were males and 161 were females.

One hundred and forty students (seventy-three females and sixty-seven males) enrolled in the english-language evening sections of the Introductory Psychology course at the University of Ottawa were tested. These groups included full-time undergraduates, post-B.A. students, and "special students" without university background taking the course primarily for interest.

Seventy-eight students (thirty-three females and forty-five males) were administered the battery of tests at St. Paul's University. These students represented a wide range of educational and occupational backgrounds and included a group working for the B. Theol. (with or without a previous degree), a group enrolled in graduate level courses

in pastoral counselling, seminarians completing their course requirements, and a group of older students enrolled in an upgrading one-year Diploma course in theology.

Finally, 118 students (fifty-five females and sixty-three males) enrolled in the business division of Algonquin College completed the battery of tests. These students were enrolled in a variety of commercial programs such as accounting, data-processing, secretarial studies and bar-tending. Most programs specified a high-school leaving certificate as a minimum entrance requirement.

3. The Procedure

The procedure involved repeated group administrations of the three tests previously described. The administrations generally took place during a regularly scheduled class meeting, although two groups at St. Paul's University remained after class to complete the test battery. Individual instructors were contacted prior to the class meeting and their agreement to solicit students as subjects was obtained. The examiner then came to the next class meeting and explained the nature of the request. Participation in the experiment was on a voluntary basis although students at the University of Ottawa received three points toward their final course grade for completing the questionnaires. The average time for completion was fifty minutes although students could take more time if they needed it.

The three questionnaires were arranged in a test booklet which contained instructions pertaining to each test as well as a cover sheet with the biographic questions. In order to avoid any systematic test

sequence bias, the booklets were constructed in counterbalanced order, with either the DIT or the I-E scale appearing first. As part of the statistical analysis, the effects of these different orders were directly assessed. The cover sheet with the biographic questions always appeared first and the Marlowe-Crowne Social Desirability Scale was always placed last. Prior to handing out the booklets a brief introduction was provided by the examiner who stated that the object of the study was to collect normative data for the three questionnaires. The deception was employed in order to facilitate honest responding and to re-assure subjects that their responses had no bearing on their final standing in the course they were attending.

4. The Statistical Analysis

Two major statistical techniques were employed in testing the hypotheses outlined in the first chapter: principal-factors factor analysis and the analysis of variance.

The first experimental hypothesis concerning the relationship between the total I-E scale locus of control score and the level of moral maturity was tested by means of a one-way analysis of variance. The statistical procedure used was the Statistical Package for the Social Sciences (SPSS) program for one-way analysis of variance. The analysis was performed for the males and females considered separately, and for the total group.

The second step of the analysis was the factor analysis of the twenty-three I-E scale items performed separately for the males and the females. The factor analysis procedure used was the SPSS program

for principal-factors analysis with iterations. This program first determines the number of factors to be extracted from the original correlation matrix. The main diagonal elements are automatically replaced with initial communality estimates given by the squared multiple correlation coefficients. From this new matrix the same number of factors are extracted. The variances accounted for by these factors become the new communality estimates which are then substituted in the diagonal. The entire process is iterated until the differences in two successive communality estimates are negligible. This program specifies the number of significant factors to be retained for the final rotated solution as those with eigenvalues greater than or equal to 1.0. Both an orthogonal and an oblique rotation were applied to the initial factors in order to determine the adequacy of the orthogonal solution. The rotation to orthogonal simple structure was accomplished by means of Kaiser's Varimax method. The oblique rotation was accomplished by means of the direct oblimin solution with the value of delta set at zero.

Following the factor analyses, the structures of the factors extracted for the males and females were compared in order to determine whether the results of the factor analyses were different for the two groups. The occurrence of non-similar factor structures necessitated the calculation of all further analyses on the two groups separately rather than on the combined group as a whole.

Subsequent to the factor analysis, factor scores were generated for each subject on each of the first three factors. Thus each subject

has a score on each of the factors as well as a score for the total I-E scale. The SPSS program causes these factor scores to be calculated from the estimated factor-score coefficient matrix.

In the last part of the statistical analysis the analysis of variance technique was used to determine if any differences occurred on any of the I-E factor scores for the different levels of moral maturity (as determined by the Defining Issues Test). Using the scores on this test (the DIT) as the independent variable, subjects were trichotomized into the lower third percentile group, the middle third, and the upper third. Each of the factor scores were then entered as the dependent variable in a one-way analysis of variance. Again the statistical procedure used was the SPSS program for a one-way analysis of variance.

Following the occurrence of a significant F ratio, multiple mean comparisons were performed using the Scheffé method.

In assessing the data generated by the analysis of variance technique and in performing the post hoc comparisons, the .05 level was used as the minimum acceptable level of statistical significance.

CHAPTER III

PRESENTATION OF THE RESULTS

This chapter will present the results of the statistical analyses outlined in the previous chapter. The first section will provide a more detailed description of the sample according to certain variables such as age and socio-economic status. This will be followed by a presentation of some preliminary analyses and of the general test findings. Included here will be the testing of the first experimental hypothesis which concerns the relationship between the score obtained on the I-E scale and the level of moral judgement maturity as measured by the DIT. The third section will test the second experimental hypothesis and will present the results generated by the factor analyses. Finally, in the last section will be described the findings obtained by the application of the analysis of variance technique to the obtained dependent variables. This section thus refers to the testing of the third experimental null hypothesis which states that individuals differing in their level of moral judgement maturity will nonetheless show no differences on any of the factors extracted from the I-E scale.

1. Description of the Sample

A total of 336 subjects, 175 males and 161 females, took part in this study. Of that total group, forty-seven failed to complete their test booklets and had to be dropped from the statistical analyses. The resultant sample thus consisted of 289 subjects (145 males and 144

females). Of these subjects eighty-nine were students registered at Algonquin College (forty-three males and forty-six females), sixty-nine were students from St. Paul's University (forty-one males and twenty-eight females) and 131 were students at the University of Ottawa (sixty-one males and seventy females). The smaller number from St. Paul's is a result of the smaller over-all enrollment at that school.

A more detailed examination of the subject pool with respect to age, socio-economic status and type of educational experiences reveals this group to be a fairly heterogeneous sample. The mean age for the total group is 25.5 (SD = 9.5), with values ranging from a minimum of seventeen years to a maximum of sixty-seven years.

The Pineo-Porter Occupational Prestige Scale (Pineo & Porter, 1967) was used to provide an index of socio-economic status. The distribution of subjects across the nine occupational classes is given in Table I. If a subject listed his occupation as "student" or "unemployed" his relative standing on the scale was determined by the occupation of the father. If the father's occupation was not given, the occupation of the mother served as the socio-economic index. The table indicates that while the higher occupational classes account for about half of the subjects, the lower end of the occupational scale is also reasonably well represented and the sample taken as a whole is quite heterogeneous with respect to this variable.

The subjects also recorded the highest level of education they had attained or the type of degree they were working toward if currently registered in a degree program. A breakdown of subjects by

TABLE I

Frequencies of subjects within each occupational class.¹

Class	Occupational Title	Frequency
1	Professional	73
2	Proprietors, Managers and Officials (Large)	29
3	Semi-Professional	29
4	Proprietors, Managers and Officials (Small)	53
5	Clerical and Sales	39
6	Skilled Workers	24
7	Semi-skilled	12
8	Unskilled	6
9	Farmers	3
	Missing	<u>21</u>
		N = 289

¹Based on the Pineo-Porter Occupational Prestige Scale (Pineo & Porter, 1967).

level of education is given in Table II. The subjects would appear to be drawn from a fairly wide range of educational experiences. These factors may be interpreted as implying a wider range of backgrounds and types of living experiences and should lead to increased heterogeneity in the sample.

2. Preliminary Analyses

Prior to the testing of any of the experimental hypotheses, some preliminary analyses were performed in order to determine whether such variables as maternal language, sequence of test presentation or a need for social approval were producing any systematic bias on the data.

Of the 289 subjects, forty-eight stated that their maternal language was not English. A two-tailed t-test indicated that their mean score on the I-E scale was not significantly different from those who indicated that their maternal language was English, $t(287) = .23$, $p < .2$. Similarly, no difference was found on their mean P-scores, $t(287) = 1.64$, $p < .1$.

One hundred and fifty-three subjects were presented with a test sequence such that they completed the DIT before the I-E scale and for 136 subjects this order of presentation was reversed. A t-test comparing the mean I-E scores of the two groups indicated that the two groups were not different in their performance on this test, $t(287) = .38$, $p < .7$. Similar nonsignificant results were found for the mean P-scores of the two groups, $t(287) = .15$, $p < .8$.

TABLE II

Frequencies of subjects within each level of education.

Level of Education	Frequency
Completed B.A.	68
Registered in university B.A. degree	79
Completed community college program	24
Registered in community college program	86
High School or Technical course only	32
	—
	N = 289

Finally, in order to assess whether a tendency to respond in a socially desirable manner was producing any systematic effect on the data, Pearson product-moment correlations were calculated for the Marlowe-Crowne Social Desirability Scale by the I-E scale and also by the DIT. The results indicated that the P-score correlates -0.19 , $p < .001$, with the social desirability scale and that the I-E scale correlates -0.14 , $p < .01$, with the social desirability scale. Although the correlations were significant, the amount of variance accounted for by the social desirability scale is quite negligible (3% and 1%, respectively).

As a result of these analyses, one may conclude that the three variables, maternal language, order of test presentation, and social desirability responding, are producing little or no systematic effect on the test results and consequently all of the future analyses may proceed without further consideration of these variables.

3. General Test Findings

Locus of control test data are described in Table III which indicates the means and standard deviations for the total group and for the males and females separately. The mean I-E score was 10.3 for the total group, 10.1 for the males and 10.6 for the females. These scores are similar to those generally obtained in research studies (Rotter, 1975).

The Defining Issues Test (DIT) provided the distribution of P-scores described in Table IV. The obtained mean of 37.2 for the total group is lower than those reported in earlier studies. The

TABLE III

Means and standard deviations of the I-E scale scores for the total sample, for the males and for the females.

Group	Mean	Standard Deviation	N
Males	10.1	4.1	145
Females	10.6	4.0	144
Total	10.3	4.1	289

TABLE IV

Means and standard deviations of the DIT P-score for the total sample, for the males and for the females.

Group	Mean	Standard Deviation	N
Males	35.8	13.9	145
Females	38.6	16.0	144
Total	37.2	15.0	289

female value of 38.6 is higher than that of the males at 35.8 but this difference is not significant, $t(287) = 1.61$, $p < .11$.

In order to perform the planned statistical analyses, it was necessary to categorize the P-score into three groups. The thirty-third and the sixty-sixth percentile scores were used as the cut-offs for dividing the group into low, moderate and high P-usage groups. These percentile points, calculated for the total group, were 28.9 and 43.9 respectively. This division resulted in a low group containing ninety-eight subjects whose P-scores ranged from 0 to 28.99, a moderate group containing ninety-five subjects with P-scores ranging from 29 to 43.99 and a high group with ninety-six subjects whose P-scores varied from 44 through to 77.0. The mean P-scores for the low, moderate and high groups were 21.3, 36.2, and 54.5, respectively. The percentile points used as cut-off scores for the total group were also applied to the males and females separately and resulted in similar three-part divisions for the two sexes. The low males group contained fifty-one subjects with a mean P-score of 20.9 and the low females group contained forty-seven subjects with a mean P-score value of 21.7. The moderate males group contained fifty subjects whose mean P-score value was 36.7 and the moderate females group contained forty-five subjects with a mean P-score of 35.6. Finally, the high males group, containing forty-four subjects had a mean P-score value of 52.0 while the high females group, with a total of fifty-two subjects, had a mean P-score value of 56.6. A χ^2 square test of independence between the males and females on the three levels of moral judgement was calculated

and the results revealed that the distributions of males and females across the three categories were not significantly different from each other, $\chi^2 (2) = 1.08$, $p < .58$. Table V gives the results of these divisions, showing the number of subjects, the mean P-score and its standard deviation for each of the groups, both for the total sample, and for the males and females considered separately.

In more descriptive terms, this tri-partitive division produces three groups which differ from each other in terms of the relative importance that is attached to principled reasoning in the completion of the DIT. Thus, in order to be included in the low group, an individual must have preferred pre-conventional and conventional statements relatively more often than principled statements and must also have assigned them a relatively greater weighting. The members of the high group performed in an opposite manner, and assigned greater importance to principled statements by selecting them more often than statements prototypic of earlier stages and also ranking them higher. The moderate group, occupying the middle score range, includes those individuals who did not strongly prefer principled statements in contrast to pre- or conventional statements.

4. Analysis of Variance Results - I-E Scale Total Score

Finally, the preliminary analyses included the application of the analysis of variance to the dependent variable, the total I-E score, across the three levels of the P-score. This analysis was calculated considering males only, females only, and for the combined group. The results of these analyses are summarized in Table VI. The main effect

TABLE V

P-score means and standard deviations of the low, moderate, and high P-score groups.

<u>P-score Group</u>	<u>P-score Values</u>		<u>Group Size</u>
	<u>Mean</u>	<u>Standard Deviation</u>	
Low			
Males	20.9	5.6	51
Females	21.7	4.9	47
Total	21.3	5.2	98
Moderate			
Males	36.7	4.2	50
Females	35.6	4.2	45
Total	36.2	4.3	90
High			
Males	52.0	7.9	44
Females	56.6	8.9	52
Total	54.5	8.8	96

Summary of the analyses of variance of the total I-E score by moral judgement level.

Source	df	Sum of Squares	Mean Square	F Ratio
Males				
Between	2	73.13	37.56	2.191
Within	142	2435.37	17.15	
Total	144	2508.50		
Females				
Between	2	51.47	28.73	1.760
Within	141	2302.85	16.33	
Total	143	2354.32		
Total				
Between	2	124.94	62.47	3.749*
Within	286	4766.08	16.66	
Total	288	4891.02		

* $p < .02$

is not significant when the analysis is performed separately for the males, $F(2,142) = 2.191$, $p < .11$, or for the females, $F(2,141) = 1.760$, $p < .17$. However, when the group is considered as a whole, the differences across the three levels of moral judgement are significant, $F(2,286) = 3.749$, $p < .02$. The application of the Scheffé method for the calculation of multiple comparisons indicates that this significant F ratio is accounted for by the difference between the mean score for the low group (10.9) and the mean score for the high group (9.5). The moderate group mean (10.8) is not significantly different from either of the adjacent means.

These results provide only tentative support for the first experimental hypothesis in that the hypothesized relationship occurs when the total sample is examined but it does not occur when the sample is divided into the males and females and these groups are analysed separately. This would suggest that the significant F ratio obtained from the analysis of the total group may be a function of the large sample size.

5. Factor Analysis Results

The factor analysis was initially performed independently for the males and the females in order to determine the presence of any sex differences. The final solution yielded nine factors, of which the first three accounted for significant proportions of the variance (eigenvalues ≥ 1.5) and indicated interpretable factors. In Tables VII and VIII are presented the unrotated factor matrices for the males and for the females indicating all nine factors and showing the

TABLE VII
Unrotated factor matrix¹ - males

I-E Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
Loc 2	0.43242	0.26536	0.20777	-0.31129	-0.10036	0.04535	0.00845	0.07600	0.23201
Loc 3	-0.31279	0.28088	-0.01782	-0.12729	0.04950	-0.02748	0.06983	0.02707	0.05071
Loc 4	-0.05165	-0.17453	-0.17664	0.23721	0.16212	-0.04709	-0.03496	0.28884	0.23836
Loc 5	-0.18465	-0.04122	0.24756	-0.06752	-0.04775	-0.06904	-0.09538	0.16482	-0.06473
Loc 6	0.35547	0.00292	0.26226	-0.11675	0.70171	0.13144	-0.23303	-0.05724	-0.07646
Loc 7	0.00070	0.08402	0.11176	-0.00148	0.13926	0.13857	0.10000	0.17237	-0.00749
Loc 9	0.36804	0.16484	-0.55869	0.24273	0.18510	-0.06554	-0.07163	0.22812	0.04854
Loc 10	-0.43506	-0.30396	0.36987	0.18653	0.12083	-0.30681	0.26947	0.17399	-0.05409
Loc 11	-0.48562	0.00757	-0.04629	-0.01143	-0.15044	0.20392	-0.12130	0.07321	0.18388
Loc 12	-0.48361	0.36211	0.00821	0.01213	0.11793	0.09292	-0.11439	0.05015	-0.02543
Loc 13	-0.29561	0.00552	-0.24490	-0.10538	0.20944	0.39795	0.45288	0.03319	-0.09389
Loc 15	-0.41812	-0.37276	0.17463	-0.06719	0.07174	0.16733	0.03070	-0.11977	0.13468
Loc 16	0.41467	0.25835	-0.00368	0.01628	-0.01418	-0.11003	0.12259	-0.03295	-0.37712
Loc 17	0.46911	-0.43586	-0.15346	0.04836	-0.07001	0.01765	0.01543	-0.04830	-0.08823
Loc 18	0.57995	0.22666	0.30229	0.41304	-0.07231	0.27630	0.04945	0.15985	0.05080
Loc 20	0.36650	0.01758	-0.07792	0.15193	0.12725	-0.21893	0.30591	-0.32400	0.22641
Loc 21	0.29375	0.01340	0.23820	0.06432	0.04767	-0.08709	0.27984	0.07932	0.09617
Loc 22	-0.37098	0.57993	0.01899	-0.12461	0.00743	-0.19006	0.22723	0.09756	0.03635
Loc 23	0.39736	0.01923	-0.14834	-0.39703	-0.02971	0.09427	0.14091	0.02075	0.03860
Loc 25	0.54789	0.18052	0.22194	0.10974	-0.19696	0.19524	-0.01769	-0.04704	0.04400
Loc 26	-0.23177	-0.07245	-0.00322	0.17261	-0.16970	0.22436	0.08431	0.09693	-0.22883
Loc 28	-0.21239	-0.02251	0.00113	0.17496	0.02207	0.27792	0.14315	-0.19216	0.08895
Loc 29	0.41919	-0.40654	-0.00670	-0.34833	-0.05466	0.02629	0.11357	0.30272	0.01004
Percent Total Variation	16.7	8.5	6.5	6.0	5.7	5.5	5.2	4.9	4.6
Eigenvalue	3.838	1.943	1.504	1.381	1.302	1.275	1.190	1.128	1.055

¹Principal factors technique. Squared multiple correlation coefficients were inserted in the main diagonal of the correlation matrix as communality estimates and only common factors with eigenvalues ≥ 1.0 were extracted.

TABLE VIII
Unrotated factor matrix¹ - females

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
I-E Item 2	-0.25736	0.15043	0.52853	0.28039	0.09658	-0.17714	-0.17432	-0.04753	-0.09472
Item 3	0.46499	0.09081	0.05349	-0.27665	0.64476	-0.18840	0.13442	0.29449	0.00907
Item 4	0.17105	0.42208	-0.09852	0.23221	0.26597	0.07853	-0.02074	-0.32498	-0.19101
Item 5	0.10517	0.25630	-0.20628	0.04081	-0.07213	0.00679	-0.32184	0.03670	0.01752
Item 6	-0.26042	-0.26946	0.11990	-0.18189	0.13001	0.21513	-0.12542	0.25939	-0.16495
Item 7	-0.01189	-0.25821	0.01834	0.04885	0.03373	-0.11553	0.02331	0.18987	-0.01557
Item 9	-0.33421	-0.12751	-0.07492	-0.10297	-0.06450	0.16189	-0.11300	0.17478	0.02415
Item 10	0.35720	0.30159	0.03706	0.05770	-0.07913	0.10293	0.04630	0.12335	0.16366
Item 11	0.48075	0.23569	0.09987	0.02188	-0.17452	-0.41540	0.10023	0.07240	0.14043
Item 12	0.46927	0.01353	0.43365	0.05352	-0.16979	0.13792	0.02825	-0.03226	0.20115
Item 13	0.52857	-0.23695	-0.20095	0.38466	0.09441	-0.05135	-0.01094	0.05023	-0.20634
Item 15	0.49233	0.18019	0.07861	0.02646	-0.18163	0.25777	-0.20676	0.28998	0.01878
Item 16	-0.31113	-0.12228	-0.06601	0.17245	0.35705	0.18916	-0.02379	-0.12491	0.40069
Item 17	-0.15144	0.37840	-0.42635	0.17180	-0.04823	-0.16897	0.00021	0.29676	0.14005
Item 18	-0.48440	-0.01304	0.20104	0.24252	0.10438	0.06641	-0.04488	0.01367	0.01108
Item 20	-0.03922	-0.32320	-0.23035	0.02659	0.06906	-0.19011	-0.18173	-0.14170	0.23087
Item 21	-0.18314	-0.11031	0.11744	0.49364	0.03332	-0.08724	-0.15615	0.25197	0.00551
Item 22	0.45337	-0.17435	0.12197	0.14295	0.10085	-0.01936	0.05594	-0.04209	0.12507
Item 23	-0.19974	-0.28644	0.02378	0.17511	-0.17914	0.05757	0.49470	0.06442	0.02362
Item 25	-0.52675	0.22646	0.27581	0.03632	0.06830	-0.05429	0.18589	0.10721	-0.01080
Item 26	0.19730	0.25960	-0.07259	0.13204	0.14400	0.45366	0.15545	0.05738	0.05149
Item 28	0.36110	-0.17473	-0.26109	0.30691	-0.02588	0.03988	0.15937	0.06638	-0.10502
Item 29	-0.41473	0.34690	-0.09097	-0.00999	-0.03108	-0.01371	0.22218	-0.01926	-0.06519
% Total Variation	15.7	8.3	6.9	6.4	5.8	5.7	5.5	4.8	4.5
Eigenvalues	3.607	1.918	1.585	1.482	1.333	1.299	1.270	1.094	1.03

¹Principal factors technique. Squared multiple correlation coefficients were inserted in the main diagonal of the correlation matrix as communality estimates and only common factors with eigenvalues ≥ 1.0 were extracted.

proportion of total variation accounted for by each factor. Both oblique and orthogonal rotations were applied to these initial factor matrices. The factor loadings for the two rotations were similar and since the factor correlation matrices calculated on the factors generated by the oblique solution indicated that despite the non-orthogonality of the solution, the intercorrelations were very small, only the varimax rotation results were retained for future analysis. These oblique factor correlation matrices for the first three factors, and calculated separately for the males and females, are presented in Table IX.

The first three factors of the rotated factor matrices using the orthogonal solution are presented in Table X which shows the significant items and their loadings. Both the factors extracted for the male group and those extracted for the female group are presented in the same table to facilitate the comparison of the two factor structures.

For the females, the first factor explains 15.7% of the variance and contains four factor loadings above .30 with small loadings on the other factors. The variables loading on this factor express concern over the degree of control that people might expect to exert over social and political institutions and has been labelled Control Ideology. Item 17, "By taking an active part in political and social affairs the people can control world affairs", is representative of the attitudes underlying this dimension.

TABLE IX

Male and female factor correlation matrices of the first three factors produced by the oblique rotation.

		Factor 1	Factor 2	Factor 3
	Factor 1	1.00	-0.08	-0.00
Males	Factor 2	-0.08	1.00	0.00
	Factor 3	-0.00	0.08	1.00
		Factor 1	Factor 2	Factor 3
	Factor 1	1.00	0.06	-0.17
Females	Factor 2	0.06	1.00	-0.01
	Factor 3	-0.17	-0.10	1.00

TABLE X
Varimax Rotated Factor Loadings^a of the Rotter I-E Scale Items

Item	Males			Females		
	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
22. With effort we can wipe out political corruption.	.73			-.38		
12. The average citizen can influence government decisions.	.52			-.53		
3. One of the reasons we have wars is because people do not take interest in politics.	.43					
29. People are responsible for bad government locally and nationally.	-.44		.59	.47		
17. By taking an active part in political-social affairs, people can control world events.	-.63			.82		
18. There is no such thing as luck.		.82				
25. It is impossible for me to believe chance or luck plays an important role in my life.		.58		.31	-.39	
2. People's misfortunes result from the mistakes they make.		.38	.47			
21. Most misfortunes are the result of lack of ability, ignorance or laziness.		.30				
23. There is a direct connection between how hard I study and the grades I get.			.51			
13. When I make plans, I am almost certain I can make them work.					.71	
28. What happens to me is my own doing.					.57	
11. Becoming a success is a matter of hard work, luck has nothing to do with it.						.64
9. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.						.34
6. Capable people who fail to become leaders have not taken advantage of their opportunities.						.54

Note: Each item is represented by the alternative scored for internal control.

^a Only items with loadings \geq .30 are shown.

The second factor extracted for the females accounts for 8.3% of the variance and it contains three pure factor loadings above .30. The items loading on this factor concern a respondent's sense of personal control over the outcome of the activities engaged in. An example of an item loading highly on this factor reads as follow: "What happens to me is my own doing".

Finally, a third factor was extracted accounting for 6.9% of the variance and containing three pure factor loadings. The items loading on this vector center on the individual's belief in the possibility of personal success through hard work and a "willing" attitude. The following item may serve as an example of the kind of attitude being expressed by this factor: "Becoming a success is a matter of hard work, luck has little or nothing to do with it".

The findings generated by the factor analysis performed only on the male subjects reveals a first factor accounting for 16.7% of the variance and with four items clearly loading on the Control Ideology items identified above for the female sample.

A second factor was extracted accounting for 8.0% of the variance and containing four pure factor loadings (above .30). These items reflect a subject's attitude to either confirm or reject the belief that luck and chance is the determining factor for the attainment of success, and may be labelled Belief in Luck. An example of an item loading heavily on this factor is the following: "There is really no such thing as luck".

Finally, a third factor which accounts for 6.5% of the variance was extracted. This factor contains three loadings above .30, two of which also load highly on the other factors and consequently this factor would appear to be less pure. The items loadings here appear to reflect a sense of personal control over success in the academic setting in particular.

A visual comparison of the factor analysis results for the males and the females suggests that the factor structures are not entirely comparable. For both sexes a first factor was isolated loading on the Control Ideology items and this factor would appear to be similar for the males and females although the signs of the loadings are reversed in the two groups.

The other factors extracted are not similar in terms of the items loadings on them for the two groups. While the second and third factors in both groups suggest underlying dimensions of a sense of personal control, they appear to be reflecting different aspects of this attitude. For example, the items loading highly on the male Factor 2 frequently contain the word "luck" while the items influential in the female factor contain more references to personal action. As a result of this comparison it is not possible to consider the two factor structures to be comparable and the future analyses will be performed independently for the two groups.

In order that each of these isolated factors may serve as dependent variables in an analysis of the relationship between moral judgement maturity and locus of control, factor scores were calculated

for each subject on each of the applicable factors. Thus, each subject received a score on each of the three factors isolated by the factor analysis of his appropriate sex group.

In summary, the factor analysis yielded three factors for the males and three for the females. Of these six factors, two showed similar item loadings and the other four indicated different structures. These results of the factor analysis may be seen as supporting the rejection of the second experimental null hypothesis. In both analyses, meaningful subfactors were extracted from the I-E scale which account for significant proportions of the total variance (on the average, 30%) and which contain readily interpretable factor loadings.

6. Analysis of Variance Results - I-E scale factors

The relationship between levels of moral judgement and perceived locus of control was analysed by means of the analysis of variance technique. The three P-usage groups (low, moderate and high) served as the classification variable and each of the factors isolated through the factor analysis functioned as a dependent variable. Since the obtained factors are orthogonal, independent analyses of variance were performed for each factor. These analyses were first performed for the males and then for the females.

In Table XI are summarized the findings of the analyses of variance of the three I-E scale factors by moral judgement level for the male group. The results indicate that the first factor, Control Ideology, is significantly related to the level of moral judgement attained by a subject, $F(2,142) = 3.175$, $p < .02$. The Scheffé

TABLE XI

Summary of the analyses of variance of the male I-E scale factors by moral judgement level.

Source	df	Sum of Squares	Mean Square	F Ratio
Factor 1				
Between	2	5.38	2.69	3.175*
Within	142	102.96	0.72	
Total	144	108.34		
Factor 2				
Between	2	1.52	0.76	0.998
Within	142	108.52	0.76	
Total	144	110.04		
Factor 3				
Between	2	0.25	0.12	0.199
Within	142	91.19	0.64	
Total	144	91.44		

* $p < .02$

procedure for multiple comparisons indicates that while the difference between the low-scoring and moderate-scoring groups is not significant, the mean score for the high group is significantly lower than that of the middle group.

The second factor, Belief in Luck, for the males was also entered into an analysis of variance with the P-score categories serving as an independent variable. The obtained F ratio is not significant, $F(2,142) = 0.998$, $p < .3$, and there is no support for the hypothesis that this subfactor bears a differential relationship to the level of moral maturity.

In a similar fashion, the relationship between the third factor isolated for the males and the level of moral judgement was analysed and as with the second factor, this relationship is not significant, $F(2,142) = 0.199$, $p < .8$. The mean scores for the three levels of moral judgement maturity are not significantly different from each other.

The results of the analyses of variance calculated on the female groups are summarized in Table XII. As can be seen from the Table, the findings indicate a significant relationship between the level of moral judgement and the Control Ideology factor of the I-E scale, $F(2,141) = 6.481$, $p < .002$. A comparison of the three means for the P-score groups using the Scheffé method shows the significant F ratio is produced by the difference between the mean of the high groups and the mean of the two other groups. Specifically, the high group mean is significantly higher than the mean scores obtained by both the low group and the moderate group. However, the difference between the low and the moderate group means is not significantly different.

TABLE XII

Summary of the analyses of variance of the female I-E scale factors by moral judgement level.

Source	df	Sum of Squares	Mean Square	F Ratio
Factor 1				
Between	2	9.89	4.948	6.841*
Within	141	101.99	0.723	
Total	143	111.88		
Factor 2				
Between	2	4.17	2.08	3.112**
Within	141	94.50	0.67	
Total	143	98.67		
Factor 3				
Between	2	0.14	0.07	0.115
Within	141	89.06	0.63	
Total	143	89.20		

* $p < .002$

** $p < .04$

The analysis of variance calculated for the second I-E factor, labelled earlier the Personal Control factor also reveals a significant F ratio, $F(2,141) = 3.112$, $p < .04$. The Scheffé method for the calculation of multiple comparisons indicates that the mean for the moderate group is significantly lower than that of the low group but that the difference between the moderate group and the high group is not significant. Likewise, the difference between the low group and the high group is not significant.

Finally, in the same table are summarized the results of the analysis of variance of the third factor isolated for the female group by the three levels of moral judgement maturity. The analysis failed to produce a significant F ratio, $F(2,141) = 0.115$, $p < .8$, and there is no support for the hypothesis that this factor is differentially related to different levels of moral maturity.

In order to provide a summary of the nature of the relationships between the I-E scale factors and the levels of moral judgement revealed by the foregoing analyses of variance, the obtained means for the three P-score groups have been plotted on graphs - one for the males and one for the females.

Figure 1 shows the group means for the three I-E factors extracted for the male subjects. The first factor refers to the Control Ideology dimension and it bears a significant relationship to the defined levels of moral judgement maturity. The other two dimensions, labelled Belief in Luck and Academic Success do not relate significantly to the scores from the DIT.

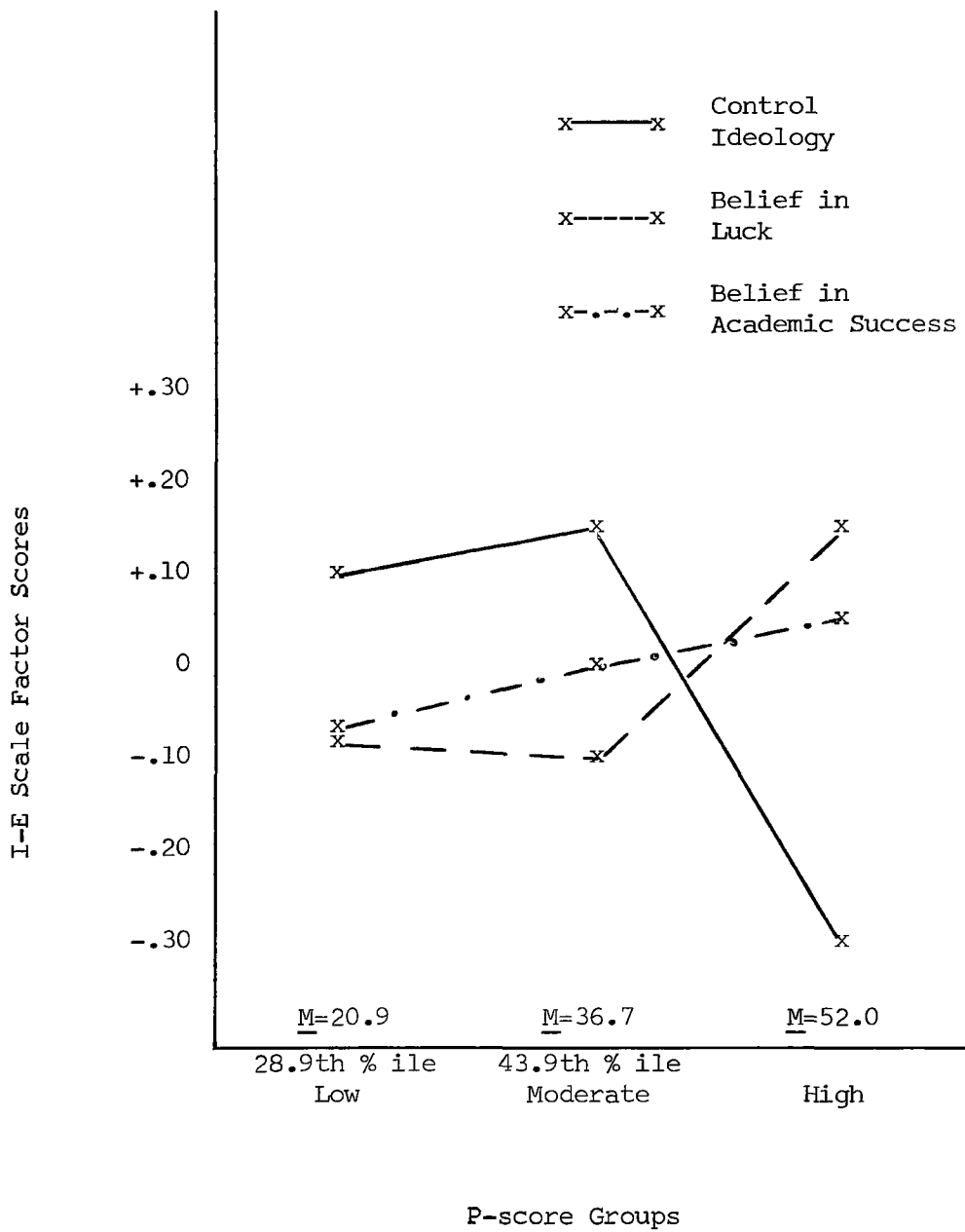


Figure 1: Male scores on the three I-E scale factors for the three levels of moral judgement.

Note: A significant main effect was found for the factor Control Ideology.

In Figure 2 are plotted the P-score group means obtained by the female subjects on each of the I-E scale factors. As with the males, the first factor is the Control Ideology dimension and the groups show significant changes on this factor as they increase their score on the DIT. The second factor has been identified as the Personal Control dimension and it also shows significant changes that are related to changes on the P-score. Finally, the means of the groups on the third factor Personal Success Orientation are plotted. However, the scores obtained on this factor were not found to be significantly different and this factor would not appear to be related differentially to the P-score.

In summary, the results described in this section lead to the rejection of the third null hypothesis. Some of the subfactors extracted from the I-E scale do, indeed, show significant relationships to the independent variable, the P-score. Furthermore, the results show that the relationship between the locus of control construct and the level of moral maturity differs as a function of the sex of the respondent. This difference is apparent in the nature of the factor structures and in the manner in which the factors relate to increases on the P-score.

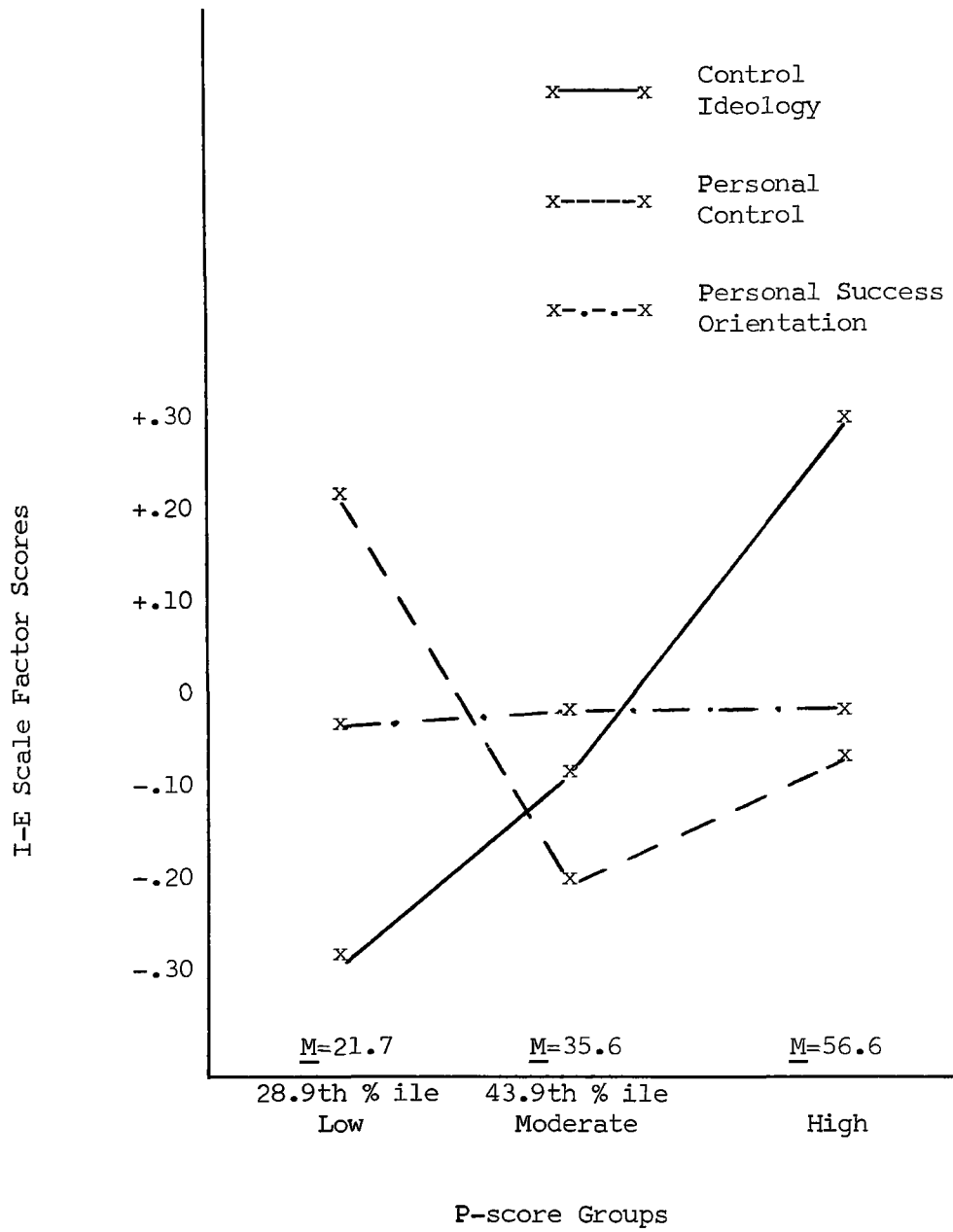


Figure 2: Female scores on the I-E scale factors for the three levels of moral judgement.

Note: Significant main effects were found for the factors Control Ideology and Personal Control.

CHAPTER IV

DISCUSSION OF THE RESULTS

This final chapter will present a summary and discussion of the research findings reported in the previous chapter and will draw some conclusions based on these findings.

1. Summary and Discussion

The purpose of the present study was to investigate the relationship between perceived locus of control and a measure of moral judgement maturity. While reports of investigations into this relationship exist in the literature, the overall results are inconclusive and inconsistent. Hence, the present study provided a replication of this earlier research with alterations in the experimental design that would correct the methodological difficulties hypothesized to have occurred in these earlier studies. Specifically, it was suggested that the following factors - sample heterogeneity, factorial complexity, and sex differences - should be explicitly considered in the design methodology. Steps were taken to account for these factors and the overall results of the study support the contention that a relationship between locus of control and moral judgement orientation does, in fact, occur. The obtained results will be discussed first with respect to sample composition and then in terms of their consequences for the experimental hypotheses proposed in the first chapter.

The Sample: In collecting subjects for this study an attempt was made to develop a sample which was large and heterogeneous since a

weakness of the earlier studies had been suggested to lie in their relatively small sample size and in their sample homogeneity. Subjects were thus drawn from three different schools which represented a broad spectrum of academic interests and types of student populations. Based on the examination of such variables as age, educational background, and socio-economic status, the results suggest that a more heterogeneous sample was used in this study than were used in the earlier ones. Furthermore, large numbers of students were tested in order to assure the presence of adequate numbers of males and females so that all analyses could be performed separately for sex. This also was achieved with the final sample used in the analyses consisting of 145 males and 144 females.

This first variable, i.e., that of adequate sample size and heterogeneity, should facilitate the occurrence of the proposed relationship by permitting a wider range of scores across the two variables to occur. Thus, by maximizing the conditions in which the relationship should occur, a more adequate testing of the proposed relationship was possible than has occurred in the previous studies.

Hypothesis I: The first experimental null hypothesis stated that "individuals differing in terms of the maturity of their moral judgement capacities will not show any significant differences in their perceived locus of control, whether the data are analysed separately for sex or analysed as a whole". This hypothesis was tested by means of the analysis of variance, and the results do not strongly support its rejection. Although significant findings were

obtained when the data were analysed without regard for the sex of the subject, this effect did not hold up when the data were analysed separately for the males and for the females. It is thus possible that the significant effect obtained with the total group is a function of the sample size. This result is, essentially, in agreement with the nonsignificant findings reported by Arbuthnot (1971), Bloomberg (1973) and Snyder (1974). Thus, despite increased heterogeneity and analyses performed separately for sex, a general relationship between locus of control and moral judgement orientation failed to emerge. A number of explanations for this result may come to mind. For example, it could be that despite the proposed logical and empirical similarities, the two constructs are, in fact, conceptually different and function completely independently within the personality make-up. Or, the difficulty may lie in the fallibility of the measuring instruments which perhaps do not validly reflect the dimensions they were designed to assess. A final explanation, and the one which this study was designed to examine, centers on the factorial structure of the locus of control construct. In effect, it is proposed that the relationship is more complex than that suggested by the first hypothesis. If the I-E scale does, in fact, measure a multidimensional variable, then, despite increased sample heterogeneity and the differential assessment of sex effects, the failure to consider this complexity may account for the nonsignificant results. It is this explanation which was considered by the following hypotheses.

Hypothesis II: The second experimental null hypothesis stated that "The factor analysis of the I-E scale of locus of control will not produce any meaningful subfactors, whether the data are analysed separately for sex or not". This was tested by performing two separate principal-factors factor analyses on the data; one for the males and one for the females. The results revealed the presence of meaningful subfactors in the I-E scale and support the rejection of the second experimental hypothesis. Furthermore, the findings suggest that sex does play an important role in understanding this variable. The comparison of the factor structures of the I-E scale for the males and females revealed essentially nonsimilar structures for the two sexes, although they did appear to share one factor in common.

For the females the Varimax rotation resulted in three factors with significant loadings and accounting for meaningful proportions of the total variance. The first factor was labelled Control Ideology after Mirels (1970) since its item loadings were highly similar to those reported by Mirels on his factor Control Ideology. The second factor for the females, with three pure factor loadings, was called Personal Control. Comparison with Mirels' Personal Control factor indicates that the three items loading here are also among the twelve which load on Mirels' factor and thus bears some similarity to it. Finally, a third factor was extracted and the items loading here define a dimension which was labelled Personal Success Orientation. The factor can also be compared to those obtained by Mirels; the three significant item loadings on this factor are again among those which define Mirels' Personal Control factor.

Thus, three robust and independent factorial dimensions were isolated in the female responses to the I-E scale. The first factor, reflecting belief in the possibility of political control is similar to one which had been isolated initially by Mirels (1970). However, in contrast to the Mirels study, in which a single factor was extracted reflecting a belief in personal control, the present factor analysis extracted two factors which seem related to this belief. The present research reveals a subdivision within this "personal" dimension such that one factor reflects personal control (factor 2) and the other factor centers more on a personal success orientation (factor 3).

The Varimax rotation for the males again revealed three factors accounting for a substantial amount of the total variance. The first factor also clearly loaded on the same items as Mirels' Control Ideology factor and when compared to the female factor structure, four of the five male items also loaded on items which significantly defined the female Control Ideology factor. The second factor identified for the males and which was labelled Belief in Luck contained four significant item loadings. When compared to the Mirels factors this second male factor did not bear as strong a resemblance as did the female factor. Out of the four significantly loading items, only two occurred on the Mirels factor of Personal Control (and none on the other factor). Likewise, when compared to the factors isolated for the females, one finds little resemblance between this second male factor and any of the female factors. Only one item loading here also loaded on one of the female factors. Finally, a third factor for the males was discerned.

Again, this factor bore little relationship to any of the factors identified by Mirels or by the factor analysis of the female data. This factor was described as reflecting belief in academic success and was also described as containing less pure item loadings.

As with the female factor analysis, the male analysis also produced robust and independent factors which can be meaningfully interpreted. Again, the same clear distinction occurred between the politically oriented items and the personal items that is seen in Mirels' work and in the female factor analysis. The two "personal" factors, although reflecting on aspects of personal control, are not similar, in terms of item loadings, to the two personal factors for the females or to the Personal Control factor in the Mirels study.

Overall, the results of these factor analyses support previous assertions that the I-E scale of locus of control is measuring a multi-dimensional construct. Furthermore, more specific support is provided for the validity of the Control Ideology factor described by Mirels (1970) and validated by other researchers (Abrahamson et al, 1973; Joe & Jahn, 1973; Viney, 1974). The present research affirmed the existence of this factor in two separate factor analyses which demonstrated its occurrence for males and for females. With respect to the Personal Control factor of Mirels which has also been previously substantiated (Abrahamson et al, 1973; Joe & Jahn, 1973; Viney, 1974), this study was not as supportive. While both the male and female analyses resulted in dimensions which reflected on aspects of Personal Control, none of the obtained dimensions closely replicated the item

loadings of the Mirels Personal Control factor. Thus, one may conclude that the more general separation of the I-E scale into political and personal factors is well supported while the actual item structure of the non-political, personal factors may vary depending on the particular sample from which they were obtained.

These factor analyses also revealed considerable differences between the males and females in terms of the factor structure of the I-E scale. This finding deviates from previously reported results (Abrahamson et al, 1974; Gurin et al, 1969; Joe & Jahn, 1973; Mirels, 1970; Viney, 1974) in which differences between the males and females were not encountered. However, these particular studies were conducted on samples made up of university undergraduates who perhaps form too restricted a group for any real differences to materialize. The use of a more diversified sample in this study may have facilitated the appearance of sex differences that characterize the population in general. These results suggest the importance of considering sex differences when analysing locus of control scores even when the mean total I-E scores are not different and further suggest the importance of analysing results separately for males and females when studying relationships between locus of control and other personality variables. The failure of previous studies to establish a consistent relationship between moral judgement maturity and locus of control may have been caused by their treatment of the data irrespective of sex. The implications of these sex differences for the experimental hypotheses are discussed later on pages 96-99.

Hypothesis III: The third experimental null hypothesis stated, "Given that meaningful subfactors can be extracted from the I-E scale by factor analysis, individuals differing in their level of moral maturity will show no significant differences on any of these subfactors." The hypothesis was tested by means of the analysis of variance technique in which the obtained I-E scale subfactors were entered separately as the dependent variable with three levels of moral judgement maturity (low, moderate and high) serving as the classification variable. In all, seven analyses were performed of which four yielded significant results and which led to a rejection of the third null hypothesis. The I-E subfactors do indeed show significant relationships to the moral judgement scores. Furthermore, the exact nature of the relationship varies for the different factors and also for the two sexes. These results will be first summarized and discussed for the males and then for the females.

For the males, the first subfactor Control Ideology showed a significant relationship to the levels of moral maturity such that greater moral judgement capacities were associated with increased internality on the political factor of the I-E scale. The relationship is not strictly linear since moderate increases in moral maturity scores are not accompanied by changes in locus of control. However, after a certain point, increased use of principled reasoning is accompanied by increased internality on the political dimension. This result is in the expected direction and supports the contention that a common basis may be found for the two variables.

Neither of the two subfactors (factors 2 and 3) defining aspects of personal control related significantly to the moral judgement maturity measure.

These results suggest two initial conclusions. First, it would appear that in this instance the political and non-political dimensions of the I-E scale are functionally independent of each other since they show differential relationships to moral judgement maturity. Secondly, it seems that since there are no differences on the Personal Control factor for the three moral maturity groups, it would appear that the common basis in the two concepts must lie in the individual's relationship to, and perception of, his socio-political world in particular. Thus, a male individual showing a greater capacity for appreciating moral judgements of a universal and articulated nature expresses a greater sense of direct control over political affairs than does the less morally mature male. Conversely, the less morally sophisticated male maintains a more external attitude towards social-political events and feels that they are less subject to his influence. And yet, on a personal level, the belief in self-determination is not different in the three groups: all express a moderate degree of perceived control.

It therefore appears to be increased internality with respect to political issues that distinguishes the more morally advanced male from one who is less advanced, rather than an increased general internality of perceived control. It seems that as the individual develops a sense of political internal control, he also becomes more able to differentiate himself from societal regulations and develops a more

principled mode of moral reasoning. However, changes in the perception of personal control are unrelated to moral reasoning levels. A possible explanation for this differential influence may be found in Kohlberg's (1969) analysis of social interaction in moral development. He suggested that role-taking opportunities are available to the individual both in the context of the family and peer group and in the wider context of the cultural institutions of the society. Perhaps, for a male, greater successful participation and interaction in these socio-political settings may lead to a sense of real political impact and may also provide the necessary cognitive stimulation for advancement in moral judgement capacity. For the male who does not, cannot, or chooses not to participate meaningfully in the socio-political system, it may come to be seen as beyond his control and he may also be deprived of the types of stimulation necessary to continue development in logico-moral domains.

This finding that the two subfactors are differentially related to level of moral reasoning is in keeping with some previously reported results of differential relationships for the two dimensions. For example, Abramowitz (1973) found that Mirels' political subfactor was related to a measure of political attitudes whereas the personal subfactor and the total I-E score were not. Another study (Woodlawn & Bekker, 1975) which examined a measure of belief in personal control over success in the academic sphere, found that internal scores on the Personal Control factor were related to this measure while internal scores on the Control Ideology factor were not. It seems that, depending on the nature of the independent variable, either one factor

or the other may prove more potent. In this study the political factor showed a significant relationship and this suggests that, for males, the development of moral judgement may have important roots in community- and society-based social role-taking.

The analyses performed on the subfactors isolated for the females show that, as with the males, the first subfactor, Control Ideology, is significantly related to an individual's level of moral judgement maturity. However, in contrast to the males, where political internality was related to a more mature moral judgement level, the results for the females show that the more morally advanced individuals show greater externality on the political control subfactor. Thus, contrary to expectation, the relationship between belief in political control and moral judgement maturity is reversed for the females. In other words, the most morally mature males are internally-oriented on the political subscale while the most morally mature females are externally-oriented on the political subscale.

The second female subfactor, reflecting Personal Control, is also significantly related to the level of moral judgement maturity. In this instance the results were as expected as the more internal subjects were those who were classified in the higher levels of moral judgement capacity. Thus, in contrast to the Political Ideology subfactor in which greater externality covaried with greater moral judgement maturity, greater internality on the Personal Control factor is correlated with greater moral judgement maturity.

These results for the female subjects allow one to conclude that the two subfactors again function independently and bear differential relations to the independent variable, moral judgement level. Furthermore, it appears that both aspects of locus of control, political and personal, are related to a female's moral judgement orientation. This relationship is, however, quite complex. The most morally mature female is thus simultaneously externally oriented with respect to control over the socio-political institutions of the culture and internally oriented with respect to her belief in control over her personal affairs. On the other hand, the less morally mature female is externally oriented with respect to her belief in personal control and self-determination and internally oriented with respect to her attitudes of locus of control for the socio-political institutions.

A possible explanation of this interaction may also be found in the nature and impact of the role-taking experiences available to females in our society. If one examines first the relationship between Personal Control and moral maturity, the expected relationship between the two variables is clear-cut with greater internality related to advanced moral maturity. Thus it seems that for women in our society the potent domain for social interaction and role-taking is on an interpersonal and familial level. Successful participation and interaction on this level may simultaneously provide the cognitive impetus for advanced moral reasoning and lead to a sense of personal fate control. More limited role-taking at this personal level may inhibit the attainment of a fully mature and integrated moral reasoning

orientation and also lead to a sense of being externally controlled and of not being fully in charge of one's reinforcements.

Turning to the results for the political subfactor, it appears that these three groups of women assess their socio-political world differently. One may argue that the more principled and personally internally oriented female in our society is realistic in her appraisal of her impact on political institutions. Comparatively speaking, political power and influence are inaccessible to women in our culture. The internal female recognizes this fact and consequently feels that the political world is beyond control and political outcomes are determined by external forces. Since her moral orientation (reflecting more principled thinking) is based more on universal principles of justice and on appreciation of the relative value of society's rules, than on conventional respect for society's norms, her rather pessimistic and cynical assessment of the political world presents no conflict with her moral values.

The less morally advanced and personally externally oriented female presents a rather different profile in her perception of the socio-political environment. Despite the fact that she experiences little sense of personal control, and despite her objectively limited access to positions of control within the political world, the less mature female still affirms her belief in the socio-political world's responsiveness to individual control. Since her moral orientation (reflecting less principled thinking) is based more on a respect for the conventions and norms of her society which she has internalized as

her own, rather than on personally chosen universal principles of justice, she is obliged to affirm the possibility of political control. Thus, despite her attitudes of an external locus of control determining her personal life, the nature of her moral orientation causes her to respond to the political items in an internal manner. One might suggest that this politically internal female has a more rigid personality structure and that in order to avoid a state of cognitive dissonance, her moral development is arrested at a level where personal values and social values are fused. One might thus anticipate that personality correlates of this type of individual would include variables such as authoritarianism and dogmatism - both of which reflect a certain inflexibility of personality functioning.

There are a few indications in the literature that the findings reported here for the females are not the result of chance variation, but reflective of a genuine phenomena. One example is provided by Sanger and Alker (1972) who examined the responses of fifty feminists and fifty control subjects to Rotter's I-E scale. Their factor analysis revealed three dimensions: personal control, protestant ethic ideology (belief in a system based on personal control over success and failure), and feminist ideology. While these dimensions are not altogether comparable to the factors obtained in this study, their relationship to the independent variable revealed a similar type of configuration as obtained here. These researchers found that the feminist women were more internal than the control subjects in their sense of personal control and were more external in protestant ethic

ideology and feminist ideology. No attempt is being made here to suggest a relation between a feminist orientation and advanced moral thinking. Rather, this study is cited because it supports the contention that locus of control dimensions in women may function in independent and sometimes reversed directions and that personal internality does not necessarily imply internality with respect to the political system.

2. Conclusions

Overall then, the findings of this study suggest that the original hypothesis that greater internality would be associated with higher levels of moral reasoning is moderated by the variable of sex and the poly-factorial nature of the locus of control construct. With respect to the male subjects, internality on the political factor is related to advanced moral reasoning while no relationship was found for the personal factor. For the females, internality on the personal factor is related to advanced moral reasoning while the relationship for the political factor is reversed.

Some general conclusions may be drawn from these results. First, the findings clearly support the assertions that locus of control is not a unidimensional concept and that the I-E scale is, in fact, measuring more than one dimension. This conclusion is based not only on the results from the factor analysis but also on the results of the analyses of variance. While factor analytic studies can provide clues that a variable contains separate dimensions, the real validating evidence for the assertion of a multidimensional construct

must be found in the empirical demonstration of differential relationships between the obtained subfactors and another variable. This type of evidence has been presented in this study and the results thus form a useful contribution to the growing literature validating the multi-dimensional approach to locus of control.

Secondly, the research findings revealed important sex differences in the locus of control construct and in the way in which it related to the measure of moral judgement maturity. Given these results, one may conclude with some certainty that locus of control means different things to males and females. Its underlying factor structure differs for the two groups and differential relationships were found with the independent variable, moral judgement maturity. Although the total I-E scores were comparable for the two sexes, a factor analysis showed that these scores were achieved in very different ways. This study thus demonstrates the utility of a sex-differentiated approach to locus of control even though the initial findings may suggest that no differences exist.

Thirdly, the results substantiate the claim that locus of control and moral judgement orientation are aspects of cognitive activity that are functionally related in the individual's personality since changes on one dimension have been shown to be systematically related to differences on the other. This rapprochement between two aspects of cognitive activity independently defined within the contexts of very different theories suggests that greater integration exists within the human personality than does within the domains of

psychological theory. This hybrid kind of research thus serves a useful purpose by demonstrating links between theoretical constructs that further the understanding of both of the constructs.

Finally, there is some support for the argument that the two variables may be influenced by the quality and extent of the individual's participation in interpersonal exchange and in community activities. This suggested similarity in terms of social and interpersonal influences also points to the usefulness of this kind of cross-theoretical research since the knowledge pertaining to one variable can be, at least tentatively, applied to the other. While the results of this study cannot be interpreted to suggest a causal relationship between the two variables, there is certainly evidence for systematic covariation. If such is the case, then stimulation of one dimension should lead to stimulation along the other. Thus, this connection between the two variables increases our understanding of the factors which are important in determining the way in which an individual perceives his culture and also how he assesses right and wrong. It seems that advanced moral thinking is related to a perception of having control over matters which, in the present network of social-political institutions, one actually does exert significant impact. Thus for males, this appears predominantly in the political - economic areas whereas for females, this is predominantly in the social-personal area. The replication of these relations would heighten the importance of adapting socio-political structures to permit more equal opportunities for women and of

increasing the status of familial activities for men. One may also tentatively suggest that if we are concerned with fostering the growth of a respect for universal principles of justice in the members of our society, we would do well to start by fostering in the individual a sense of autonomy and self-determination both on a political and on a personal level.

SUMMARY AND CONCLUSIONS

This study investigated the relationship between moral judgement maturity and locus of control in large, heterogeneous groups of males and females. Previous investigations of this relationship had failed to consistently demonstrate positive results and this study hypothesized that this failure could be corrected by analysing the relationship while taking into account sex differences and the factorial complexity of Rotter's I-E scale of locus of control. The results generated by such an analysis generally supported the contention that an internal locus of control is positively related to a more advanced moral judgement orientation.

Factor analyses of the I-E scale revealed different factor structures for the males and females, although on a more general level, both showed a clear separation between political control and personal control dimensions. Furthermore, these I-E scale subfactors bore differential relationships to the moral judgement construct, both between subfactors and between males and females.

To summarize, political internality was associated with more principled moral reasoning in the males and was associated with less principled moral reasoning in the females. On the other hand, personal internality was associated with advanced moral judgement maturity in the females and was not significantly related to males' moral judgement maturity. It was suggested that this apparent inconsistency could be resolved if these results were interpreted separately for the two sexes in terms of the potential role-taking opportunities in

the socio-political world and in the individual's personal life. Thus for males, successful participation in the community-based and societal institutions leading to a sense of control and of power in these areas would appear to be an important correlate of advanced moral maturity. For females, however, political power is relatively inaccessible. Therefore, participation in peer-based relations and personal development leading to a sense of self-determination and internal personal control and an objective recognition of her relative lack of influence in socio-political affairs, would appear to be important correlates of advanced moral judgement among women.

This explanation of the differential effects of socio-political life and the personal domain is not based on empirical evidence. However, this study suggests that a fruitful area of research would be an investigation of these influences. An investigation in which women with political influence were compared to a control group along these dimensions could clarify the impact of the relative lack of political power in the lives of most women.

The results obtained in this study clearly demonstrate the importance of analysing locus of control data independently for sex even when the overall I-E scores are not different. Many researchers pool their data when a comparison of the I-E total scores reveals no differences. The results of this study suggest that this can be very misleading. It would be interesting to see how the results of earlier investigations into locus of control and moral judgement capacity would turn out if this variable were accounted for.

Finally, although the results of this study are promising, in the light of the previous negative results, the conclusions drawn here can only be considered tentative at this stage. Independent replications of this relationship, taking into consideration both sex differences and factorial complexity, are needed in order to fully justify the conclusions and interpretations made in this study.

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APPENDIX 1

AN EXAMPLE OF THE INTERNAL-EXTERNAL
LOCUS OF CONTROL SCALE

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you most strongly believe to be the case as far as you are concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice.

Please circle the alternative (a) or (b) which you have selected.

1. (a) Children get into trouble because their parents punish them too much.
(b) The trouble with most children nowadays is that their parents are too easy with them.
2. (a) Many of the unhappy things in people's lives are partly due to bad luck.
(b) People's misfortunes result from the mistakes they make.
3. (a) One of the major reasons why we have wars is because people don't take enough interest in politics.
(b) There will always be wars, no matter how hard people try to prevent them.
4. (a) In the long run people get the respect they deserve in this world.
(b) Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. (a) The idea that teachers are unfair to students is nonsense.
(b) Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. (a) Without the right breaks one cannot be an effective leader.
(b) Capable people who fail to become leaders have not taken advantage of their opportunities.
7. (a) No matter how hard you try some people just don't like you.
(b) People who can't get others to like them don't understand how to get along with others.
8. (a) Heredity plays the major role in determining one's personality.
(b) It is one's experiences in life which determine what they're like.

9. (a) I have often found that what is going to happen will happen.
(b) Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10. (a) In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
(b) Many times exam questions tend to be so unrelated to course work that studying is really useless.
11. (a) Becoming a success is a matter of hard work, luck has little or nothing to do with it.
(b) Getting a good job depends mainly on being in the right place at the right time.
12. (a) The average citizen can have an influence in government decisions.
(b) This world is run by the few people in power, and there is not much the little guy can do about it.
13. (a) When I make plans, I am almost certain that I can make them work.
(b) It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14. (a) There are certain people who are just no good.
(b) There is some good in everybody.
15. (a) In my case getting what I want has little or nothing to do with luck.
(b) Many times we might just as well decide what to do by flipping a coin.
16. (a) Who gets to be the boss often depends on who was lucky enough to be in the right place first.
(b) Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17. (a) As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
(b) By taking an active part in political and social affairs the people can control world events.
18. (a) Most people don't realize the extent to which their lives are controlled by accidental happenings.
(b) There really is no such thing as "luck".

19. (a) One should always be willing to admit mistakes.
(b) It is usually best to cover up one's mistakes.
20. (a) It is hard to know whether or not a person really likes you.
(b) How many friends you have depends upon how nice a person you are.
21. (a) In the long run the bad things that happen to us are balanced by the good ones.
(b) Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22. (a) With enough effort we can wipe out political corruption.
(b) It is difficult for people to have much control over the things politicians do in office.
23. (a) Sometimes I can't understand how teachers arrive at the grades they give.
(b) There is a direct connection between how hard I study and the grades I get.
24. (a) A good leader expects people to decide for themselves what they should do.
(b) A good leader makes it clear to everybody what their jobs are.
25. (a) Many times I feel that I have little influence over the things that happen to me.
(b) It is impossible for me to believe that chance or luck plays an important role in my life.
26. (a) People are lonely because they don't try to be friendly.
(b) There's not much use in trying too hard to please people, if they like you, they like you.
27. (a) There is too much emphasis on athletics in high school.
(b) Team sports are an excellent way to build character.
28. (a) What happens to me is my own doing.
(b) Sometimes I feel that I don't have enough control over the direction my life is taking.
29. (a) Most of the time I can't understand why politicians behave the way they do.
(b) In the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX 2

AN EXAMPLE OF THE DEFINING ISSUES
TEST OF MORAL JUDGEMENT

OPINIONS ABOUT SOCIAL PROBLEMS

This questionnaire is aimed at understanding how people think about social problems. Different people often have different opinions about questions of right and wrong. There are no "right" answers in the way that there are right answers to math problems. We would like you to tell us what you think about several problem stories. The papers will be fed to a computer to find the average for the whole group, and no one will see your individual answers.

* * * * *

In making a decision about social problems, what should be the most important questions a person asks himself? On what general basis would you want people to determine what is crucial in these problems?

On the next page is a list of questions that a person might ask himself when he is trying to make a decision. Read one question at a time and check in the left hand margin (of each one) how important you think it is.

There are five places to put a check.

GREAT importance - Check here if the question concerns something that makes a big, crucial difference one way or the other in making a decision about the problem.

MUCH importance - Check here if the question concerns something that a person should clearly be aware of in making a decision, and one way or the other, it would make a difference in your decision, but not a big, crucial difference.

SOME importance - Check here if the question concerns something you generally care about, but something that is not of crucial importance in deciding about this problem.

LITTLE importance - Check here if the question concerns something that is not sufficiently important to consider in this case.

NO importance - Check here if the question is about something that has no importance in making a decision, and that you'd be wasting your time in thinking about this when trying to make a difficult decision. Some of the questions are apt to seem foolish or make no sense. Check here on those questions.

In this questionnaire you will be asked to give your opinions about several stories. Here is a story as an example:

Frank Jones has been thinking about buying a car. He is married, has two small children and earns an average income. The car he buys will be his family's only car. It will be used mostly to get to work and drive around town, but sometimes for vacation trips also. In trying to decide what car to buy, Frank Jones realized that there were a lot of questions to consider. On the next page there is a list of some of these questions.

If you were Frank Jones, how important would each of these questions be in deciding what car to buy?

INSTRUCTIONS FOR PART A: (SAMPLE QUESTION)

On the left hand side of the next page check one of the spaces by each statement of a consideration. (For instance, if you think that statement #1 is not important in making a decision about buying a car, check the space on the right).

GREAT Importance
MUCH Importance
SOME Importance
LITTLE Importance
NO Importance

— — — — —
— — — — —
— — — — —
— — — — —
— — — — —
— — — — —

1. Whether the car dealer was in the same block as where Frank lives. (Note that in this sample, the person taking the questionnaire did not think this was important in making a decision.)
2. Would a used car be more economical in the long run than a new car. (Note that a check was put in the far left space to indicate the opinion that this is an important issue in making a decision about buying a car.)
3. Whether the color was green, Frank's favourite color.
4. Whether the cubic Inch displacement was at least 200. (Note that if you are unsure about what "cubic inch displacement" means, then mark it "no importance".)
5. Would a large, roomy car be better than a compact car.
6. Whether the front connibilities were differential. (Note that if a statement sounds like gibberish or nonsense to you, mark it "no importance".)

INSTRUCTIONS FOR PART B: (SAMPLE QUESTION)

From the list of questions above, select the most important one of the whole group. Put the number of the most important question on the top line below. Do likewise for your 2nd, 3rd, and 4th most important choices. (Note that the top choices in thss case will come from the statements that were checked on the far left-hand side - statements #2 and #5 were thought to be very important. In deciding what is the most important, a person would re-read #2 and #5, and then pick one of them as the most important, then put the other one as "second most important".

Most important _____

Second most important _____

Third most important _____

Fourth most important _____

HEINZ AND THE DRUG

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 form of radium that a druggist in the same town had recently discoverd. The drug was expensive to make, but the druggist was charging ten times what the drug cost to make. He paid \$200 for the radium and charged \$2000 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 \$1000, 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 began to think about breaking into the man's store to steal the drug for his wife.

Should Heinz steal the drug? (Check one)

_____ Should steal it

_____ Can't decide

_____ Should not steal it

STUDENT TAKE-OVER

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At Harvard University a group of students, called the Students for a Democratic Society (SDS), believe that the University should not have an army ROTC program. SDS students are against the war in Viet Nam, and the army training program helps send men to fight in Viet Nam. The SDS students demanded that Harvard end the army ROTC training program as a university course. This would mean that Harvard students could not get army training as part of their regular course work and not get credit for it towards their degrees.

Agreeing with the SDS students, the Harvard professors voted to end the ROTC program as a university course. But the President of the University stated that he wanted to keep the army program on campus as a course. The SDS students felt that the President was not going to pay attention to the faculty vote or to their demands.

So, one day last April, two hundred SDS students walked into the university's administration building and told everyone else to get out. They said they were doing this to force Harvard to get rid of the army training program as a course.

Should the students have taken over the administration building? (Check one)

_____ Yes, they should take it over

_____ Can't decide

_____ No, they should not take it over

GREAT importance
 MUCH importance
 SOME importance
 LITTLE importance
 NO importance

—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
—	—	—	—	—
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—	—	—	—	—
—	—	—	—	—
—	—	—	—	—

1. Are the students doing this to really help other people or are they doing it just for kicks?
2. Do the students have any right to take over property that doesn't belong to them?
3. Do the students realize that they might be arrested and fined, and even expelled from school.
4. Would taking over the building in the long run benefit more people to a greater extent.
5. Whether the president stayed within the limits of his authority in ignoring the faculty vote.
6. Will the takeover anger the public and give all students a bad name.
7. Is taking over a building consistent with principles of justice.
8. Would allowing one student take-over encourage many other student take-overs.
9. Did the president bring this misunderstanding on himself by being so unreasonable and uncooperative.
10. Whether running the university ought to be in the hands of a few administrators or in the hands of all the people.
11. Are the students following principles which they believe are above the law.
12. Whether or not university decisions ought to be respected by students.

From the list of questions above, select the four most important:

Most important _____

Second most important _____

Third most important _____

Fourth most important _____

ESCAPED PRISONER

A man had been sentenced to prison for 10 years. After one year, however, he escaped from prison, moved to a new area of the country, and took on the name of Thompson. For 8 years he worked hard, and gradually he saved enough money to buy his own business. He was fair to his customers, gave his employees top wages, and gave most of his own profits to charity. Then one day Mrs. Jones, an old neighbor, recognized him as the man who had escaped from prison 8 years before, and whom the police had been looking for.

Should Mrs. Jones report Mr. Thompson to the police and have him sent back to prison? (Check one)

- Should report him
- Can't decide
- Should not report him

ESCAPED PRISONER

GREAT importance
 MUCH importance
 SOME importance
 LITTLE importance
 NO importance

— — — — —
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1. Hasn't Mr. Thompson been good enough for such a long time to prove he isn't a bad person?
2. Everytime someone escapes punishment for a crime, doesn't that just encourage more crime?
3. Wouldn't we be better off without prisons and the oppression of our legal system?
4. Has Mr. Thompson really paid his debt to society?
5. Would society be failing what Mr. Thompson should fairly expect?
6. What benefits would prisons be apart from society, especially for a charitable man?
7. How could anyone be so cruel and heartless as to send Mr. Thompson to prison.
8. Would it be fair to all the prisoners who had to serve out their full sentences if Mr. Thompson was let off?
9. Was Mrs. Jones a good friend of Mr. Thompson?
10. Wouldn't it be a citizen's duty to report an escaped criminal, regardless of the circumstances?
11. How would the will of the people and the public good best be served.
12. Would going to prison do any good for Mr. Thompson or protect anybody?

From the list of questions above, select the four most important:

Most important _____
 Second most important _____
 Third most important _____
 Fourth most important _____

NEWSPAPER

Fred, a senior in high school, wanted to publish a mimeographed newspaper for students so that he could express many of his opinions. He wanted to speak out against the war in Viet Nam and to speak out against some of the school's rules, like the rule forbidding boys to wear long hair.

When Fred started his newspaper, he asked his principal for permission. The principal said it would be all right if before every publication Fred would turn in all his articles for the principal's approval. Fred agreed and turned in several articles for approval. The principal approved all of them and Fred published two issues of the paper in the next two weeks.

But the principal had not expected that Fred's newspaper would receive so much attention. Students were so excited by the paper that they began to organize protests against the hair regulation and other school rules. Angry parents objected to Fred's opinions. They phoned the principal telling him that the newspaper was unpatriotic and should not be published. As a result of the rising excitement, the principal ordered Fred to stop publishing. He gave as a reason that Fred's activities were disruptive to the operation of the school.

Should the principal stop the newspaper? (Check one)

- Should stop it
- Can't decide
- Should not stop it

GREAT importance
 MUCH importance
 SOME importance
 LITTLE importance
 NO importance

— — — — —
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1. Is the principal more responsible to students or to parents?
2. Did the principal give his word that the newspaper could be published for a long time, or did he just promise to approve the newspaper one issue at a time?
3. Would the students start protesting even more if the principal stopped the newspaper?
4. When the welfare of the school is threatened, does the principal have the right to give orders to students?
5. Does the principal have the freedom of speech to say "no" in this case?
6. If the principal stopped the newspaper would he be preventing full discussion of important problems?
7. Whether the principal's order would make Fred lose faith in the principal.
8. Whether Fred was really loyal to his school and patriotic to his country.
9. What effect would stopping the paper have on the student's education in critical thinking and judgment?
10. Whether Fred was in any way violating the rights of others in publishing his own opinions.
11. Whether the principal should be influenced by some angry parents when it is the principal that knows best what is going on in school.
12. Whether Fred was using the newspaper to stir up hatred and discontent.

From the list of questions above, select the four most important:

Most important _____
 Second most important _____
 Third most important _____
 Fourth most important _____

WEBSTER

Mr. Webster was the owner and manager of a gas station. He wanted to hire another mechanic to help him but good mechanics were hard to find. The only person he found who seemed to be a good mechanic was Mr. Lee, but he was Chinese. While Mr. Webster himself didn't have anything against orientals, he was afraid to hire Mr. Lee because many of his customers didn't like orientals. His customers might take their business elsewhere if Mr. Lee was working in the gas station.

When Mr. Lee asked Mr. Webster if he could have the job, Mr. Webster said that he had already hired somebody else. But Mr. Webster really had not hired anybody because he could not find anybody who was a good mechanic besides Mr. Lee.

What should Mr. Webster have done? (Check one)

- Should have hired Mr. Lee
- Can't decide
- Should not have hired him

GREAT importance

MUCH importance

SOME importance

LITTLE importance

NO importance

WEBSTER

—	—	—	—	—	1. Does the owner of a business have the right to make his own business decisions or not?
—	—	—	—	—	2. Whether there is a law that forbids racial discrimination in hiring for jobs.
—	—	—	—	—	3. Whether Mr. Webster is prejudiced against orientals himself or whether he means nothing personal in refusing the job.
—	—	—	—	—	4. Whether hiring a good mechanic or paying attention to his customers' wishes would be best for his business.
—	—	—	—	—	5. What individual differences ought to be relevant in deciding how society's rules are filled?
—	—	—	—	—	6. Whether the greedy and competitive capitalistic system ought to be completely abandoned.
—	—	—	—	—	7. Do a majority of people in Mr. Webster's society feel like his customers or are a majority against prejudice?
—	—	—	—	—	8. Whether hiring capable men like Mr. Lee would use talents that would otherwise be lost to society.
—	—	—	—	—	9. Would refusing a job to Mr. Lee be consistent with Mr. Webster's own moral beliefs?
—	—	—	—	—	10. Could Mr. Webster be so hard hearted as to refuse the job knowing how much it means to Mr. Lee?
—	—	—	—	—	11. Whether the Christian commandment to love your fellow man applies in this case.
—	—	—	—	—	12. If someone's in need, shouldn't he be helped regardless of what you get back from him?

From the list of questions above, select the four most important:

- Most important _____
- Second most important _____
- Third most important _____
- Fourth most important _____

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THE DOCTOR'S DILEMMA

A lady was dying of cancer which could not be cured and she had only about six months to live. She was in terrible pain, but she was so weak that a good dose of pain-killer like morphine would make her die sooner. She was delirious and almost crazy with pain, and in her calm periods, she would ask the doctor to give her enough morphine to kill her. She said she couldn't stand the pain and that she was going to die in a few months anyway.

What should the doctor do? (Check one)

- He should give the lady an overdose that will make her die.
- Can't decide.
- Should not give the overdose.

DOCTOR

GREAT importance	MUCH importance	SOME importance	LITTLE importance	NO importance	
_____	_____	_____	_____	_____	1. Whether the woman's family is in favour of giving her the overdose or not.
_____	_____	_____	_____	_____	2. Is the doctor obligated by the same laws as everybody else if giving an overdose would be the same as killing her.
_____	_____	_____	_____	_____	3. Whether people would be much better off without society regimenting their lives and even their deaths.
_____	_____	_____	_____	_____	4. Whether the doctor could make it appear like an accident.
_____	_____	_____	_____	_____	5. Does the state have the right to force continued existence on those who don't want to live.
_____	_____	_____	_____	_____	6. What is the value of death prior to society's perspective on personal values.
_____	_____	_____	_____	_____	7. Whether the doctor has sympathy for the woman's suffering or cares more about what society might think.
_____	_____	_____	_____	_____	8. Is helping to end another's life ever a responsible act of co-operation.
_____	_____	_____	_____	_____	9. Whether only God should decide when a person's life should end.
_____	_____	_____	_____	_____	10. What values the doctor has set for himself in his own personal code of behaviour.
_____	_____	_____	_____	_____	11. Can society afford to let everybody end their lives when they want to.
_____	_____	_____	_____	_____	12. Can society allow suicides or mercy killing and still protect the lives of individuals who want to live.

From the list of questions above, select the four most important:

Most important _____

Second most important _____

Third most important _____

Fourth most important _____

APPENDIX 3

AN EXAMPLE OF THE DEFINING
ISSUES TEST SCORING SHEET

Stage Scores, Including the "P" Score

If you are hand scoring your questionnaires, follow these steps:

1. Prepare data sheets for each S as follows:

<u>Story</u>	Stage 2	3	4	5A	5B	6	A	M	P
Heinz									
Students									
Prisoner									
Doctor									
Webster									
Newspaper									
Totals									

2. Only look at first four rankings at bottom of test page.

3. For the "question" marked as most important (Rank no. 1) consult the chart below to find out what stage the item exemplifies. For instance, if a subject's first rank on the Heinz story was question 6, this would be a stage 4 choice.

<u>Story</u>	Item 1	2	3	4	5	6	7	8	9	10	11	12
Heinz	4	3	2	M	3	4	M	6	A	5A	3	5A
Stu.	3	4	2	5A	5A	3	6	4	3	A	5B	4
Pris.	3	4	A	4	6	M	3	4	3	4	5A	5A
Doc.	3	4	A	2	5A	M	3	6	4	5B	4	5A
Web.	4	4	3	2	6	A	5A	5A	5B	3	4	3
Newsp.	4	4	2	4	M	5A	3	3	5B	5A	4	3

4. After finding the item's stage, weight the choices by giving a weight of 4 to the first choice, 3 to the second choice, 2 to the third choice, and 1 to the fourth choice.

5. For each 1st, 2nd, 3rd, and 4th choice in the 6 stories, enter the appropriate weight in the stage column on the subject's DATA SHEET. For instance, in the example above where the first choice was a stage 4 item, enter a weight of 4 on the data sheet under stage 4 across the Heinz story.

6. The completed table on the DATA SHEET will have 4 entries for every story and 24 entries altogether. (There may be more than one entry in a box, e.g., a first and second choice on the Heinz story of a stage 4 item).

7. On the subject's DATA SHEET, total each stage column (e.g., for stage 2 column, add numbers by Heinz story, Student story, Prisoner, etc.).

8. To get the "Principled" morality score ("P"), add the subtotals together from stages 5A, 5B, and 6. This is interpreted as "the relative importance attributed to principled moral considerations" in making a moral decision.

9. You may want to express the totals in terms of percentages, in which case divide the raw score by 60. Note that the P score (as a percentage) can range from 0 to 95 instead of 100 due to the fact that on 3 stories there is no fourth possible Principled item to choose.

APPENDIX 4

AN EXAMPLE OF THE CROWNE-MARLOWE
SOCIAL DESIRABILITY SCALE

Personal Reaction Inventory

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

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

Personal Reaction Inventory (Cont'd)

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- True _____ False _____ 23. There have been occasions when I felt like smashing things.
- True _____ False _____ 24. I would never think of letting someone else be punished for my wrongdoings.
- True _____ False _____ 25. I never resent being asked to return a favor.
- True _____ False _____ 26. I have never been irked when people expressed ideas very different from my own.
- True _____ False _____ 27. I never make a long trip without checking the safety of my car.
- True _____ False _____ 28. There have been times when I was quite jealous of the good fortune of others.
- True _____ False _____ 29. I have almost never felt the urge to tell someone off.
- True _____ False _____ 30. I am sometimes irritated by people who ask favours of me.
- True _____ False _____ 31. I have never felt that I was punished without cause.
- True _____ False _____ 32. I sometimes think when people have a misfortune they only got what they deserved.
- True _____ False _____ 33. I have never deliberately said something that hurt someone's feelings.

APPENDIX 5

AN EXAMPLE OF THE COVER SHEET
FOR COLLECTING DEMOGRAPHIC DATA

As a student in the Master's program in psychology at the University of Ottawa, I am required to carry out a research project.

My project is to establish Ottawa norms for the three questionnaires on social opinions which are attached here. When we collect norms we ask representative groups of people to fill out the questionnaires. In this way we can establish how Ottawa residents typically feel about these issues and what would be a high or low score for this group of people. When we have determined the typical way of answering for people in Ottawa, then we can use these questionnaires in future projects.

Because we are collecting normative data, we need to have some information about you. All information will remain confidential and anonymous. Please fill in the following questions.

AGE: _____ SEX _____ MATERNAL LANGUAGE _____

OCCUPATION _____ LEVEL OF EDUCATION
COMPLETED _____

SCHOOL _____ APPROXIMATE INCOME _____

OCCUPATION OF PARENTS: MOTHER _____
FATHER _____

APPROXIMATE COMBINED INCOME OF PARENTS: _____

EDUCATION OF PARENTS: MOTHER _____
FATHER _____

The questionnaires are arranged in a specific order, so please follow the sequence, completing each one before going on to the next.

Thank you for your co-operation.

ABSTRACT

Studies investigating the linkage between levels of moral reasoning and perceived locus of control have yielded inconclusive or inconsistent results. This literature is criticized for overlooking the polyfactorial nature of locus of control, the influence of sex as a moderator variable, and for using relatively small and homogeneous samples.

A factor analysis of 145 male and 144 female I-E scale data yielded one common factor and two different factors across sex. When mean factor scores were compared within sex across three levels of moral judgement performance the following trends emerged. Highest moral judgement capacity was related to internal control in the socio-political area for men and external control in this area for females. On the other hand it was related to internal control in the social-personal area for females and unrelated to control in this area for males.

It was suggested that this apparent inconsistency may result from differential role-taking opportunities offered to men and women in our society. Generally speaking, the socio-political power structure is a male-dominated area where positions of control are relatively inaccessible to women. Thus women are more limited in their role-repertoire to the socio-interpersonal sphere. These different role-taking potentials can be seen as leading to the sex-specific relationships found in this study.

ABSTRACT

In conclusion, it was suggested that a replication of these relations would heighten the importance of adapting the present socio-political structures to permit equal opportunities for females and of increasing the status of familial activities for males.