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THE DIFFERENTIAL EFFECT OF
MORAL JUDGMENT AND
INTERNAL AND EXTERNAL INCENTIVES ON
CHEATING BEHAVIOR

by

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CURRICULUM STUDIORUM

The author, Gerard Halloran, was born in Oak Park, Illinois in 1937. He was ordained to the Dominican priesthood in Dubuque, Iowa in 1964. He received a Master of Arts degree in Moral Theology from the Aquinas Institute, Dubuque, Iowa in 1964 and a Lectorate in Sacred Theology (Pontifical) in 1965. He received a Master of Science degree in Clinical Psychology from St. Louis University, St. Louis, Missouri in June of 1970. From August, 1976 until the present time he has been enrolled as a full-time student in the Clinical Psychology program at the doctoral level at the University of Ottawa.

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Abstract

The present research follows upon an earlier study conducted during 1977-78. A methodological consideration was raised from the study and, thus, a second study was conducted during the 1980-81 school year. The purpose of this study was to elucidate the relationship between moral judgment, incentives and cheating behavior.

The effectiveness of four incentives, two internal and two external, were pre-tested against a control group using 143 subjects divided evenly among the five groups. All incentives, except for one of the internal incentives, were found to be significantly effective in producing the desired behavior when compared against the control group ($p < .05$). The most effective of the two external incentives was chosen along with the effective internal incentive for the experimental testing session.

Using Rest's Defining Issues Test, 296 male, secondary school students were classified according to their predominant stage of moral judgment. Stage 3, 4 and 5 subjects were randomly assigned to one of the three experimental groups which received an internal or external incentive or no incentive (control) on the assigned task. A contrived addition test consisting of five trials of fifteen problems per trial was administered to each of the three groups with incorrect answers being given for one-half of the problems allowing opportunities to falsify the written self-report of test results.

It was hypothesized that stage 3 subjects would respond with increased cheating behavior to the external incentive of an offer of a very valuable

cash prize while stage 5 subjects would respond with increased cheating behavior to the internal incentive of need achievement. It was further hypothesized that stage 4 subjects, being in a transitional stage, would respond equally to both incentives.

The resulting data were analyzed on three levels: (1) the fact of cheating was ascertained by chi square analysis, (2) the degree of cheating was analyzed by an analysis of variance and (3) the differences in cheating behavior by each of the three groups across the five trials was analyzed by a multivariate analysis of variance.

Significant differences were found in regard to the two incentives when compared to the control group but no significant differences were found among the three stages of moral judgment. Possible reasons for the failure of the stages of moral judgment to discriminate the cheaters from the non-cheaters over the three levels of analysis were discussed.

INTRODUCTION

The empirical study of moral development has been of interest to psychologists for the past seventy years and has generated research in many diverse areas of psychology. A survey of the moral development literature frequently begins with Piaget during the early part of the twentieth century. Although Piaget started with the general investigation of the process of knowledge and its development, as part of this general investigation, he proceeded to the study of moral-intellectual development in children. He was able to show, through interviews and questions, that the child progresses through several cognitive stages in his moral development from moral realism to mutual reciprocity. In the stage of moral realism, the child forms his moral judgments based on external authority and the fear of punishment and the seeking of praise. In the stage of mutual reciprocity, moral judgments are made with the good of the "other" in mind. Thus, the development of moral principles within the individual proceeds from a concern with externals to a concern with internal factors. This transition from an external morality to an internal morality was shown by Piaget (1932) to follow upon chronological age.

Piaget, although accepted today as the pioneer in moral development studies, was not seriously accepted by his contemporaries because of his naturalistic observations, his failure to employ control groups and because he failed to experimentally manipulate his variables. It was not until Kohlberg's research, in the late 1950's, that the methodology of individual interviews became more acceptable in the mainstream of academic psychology.

Kohlberg (1958, 1969, 1971) expanded Piaget's two-stage theory by substantiating three levels of moral judgment. The Preconventional Level is characterized by the interpretation of good and bad in terms either of the physical or hedonistic consequences of action or in terms of the physical power of the external authority. The Conventional Level is characterized by concern with the expectations of one's family, group or nation. The Postconventional Level is characterized by the self-definition of moral values and principles. Each of these three levels contains two stages which are distinguished by the degree of abstractness in the application to specific situations. Kohlberg (1958, 1969), like Piaget, found that this stage progression follows a chronological order. Kohlberg added that the progression from stage 1 through stage 6 is independent of socio-economic status and that it holds across cultures (Kohlberg & Kramer, 1969; Turiel, Edwards & Kohlberg, 1978).

This research, however, has been limited by its methodology to the purely cognitive aspect of moral judgment. In studying the concept of moral development, one must also take into account the affective component of a moral sense together with the societal determinants of behavior.

The affective life and growth of the individual has been outlined by Freud and the psychoanalysts. Freud (1930) explains the rise of morality in terms of the growth of the superego, the identification process, anxiety and the Oedipus complex. Freud's theories have served to emphasize that to fully understand the human person, we must look into the individual to understand not only his cognitions but his feelings, both conscious and unconscious. According to Freud, man interacts with his environment prompted by his internal instincts, desires and needs. Man is the

principal agent of his actions driven by internal forces. Morality, for Freud, consists in the opposition of human needs and desires and the limitations imposed by society on those needs and desires. Freud's theories concerning the superego, the identification process and the Oedipus complex have been supported by the research of Anna Freud (1958), Speigal (1958), Erickson (1956), Jacobson (1964) and Esman (1972). Because of the lack of experimental validation, this research remains in the realm of theory but it has attempted to add to the understanding of moral behavior.

Behaviorists (Hartshorne & May, 1928; Burton, 1963; MacKinnon, 1938; Eysenck, 1960, 1976) view morality from the standpoint of the reinforcement conditions of society and the environment. They have shown that the individual will act in a moral way if, by that action, he is reinforced either physically or psychologically. As part of this tradition, social learning theorists (Bandura, 1965; Aronfreed, 1968; Maccoby, 1959; Mischel, 1964, 1976) have demonstrated the existence of a strong interaction between the external environment and the internal personality factors of emotional tone and judgmental intelligence in the development of a sense of moral right and wrong in the individual.

Based on these perspectives, it can be observed that research and experimentation in the area of moral development has varied according to the psychological viewpoint of the experimenter. Researchers in the cognitive-developmental tradition have concentrated primarily on the intellectual judgment and stage theory of moral development. A recent measure to counteract the experimental difficulties of Kohlberg's verbal moral dilemmas was developed by Rest (1974). The Defining Issues Test (D.I.T.) is keyed on Kohlberg's moral dilemmas and has been used as an

objective means of assigning Kohlberg's stages to individual subjects. The major contribution of the D.I.T. to moral development studies is that it is an objective test using standard scores and is capable of being administered to large groups. Thus, the need for independent judges together with the subjective element of judgment has been eliminated. Research along the line of the cognitive-developmental tradition has concerned itself with the deliniation of stages and has not concerned itself until recently with whether the judgment of the moral situation corresponds to actual behavior. Research, according to the psychoanalytical tradition, concerns itself with the origin and dynamics of moral affect. On the other hand, behaviorism is concerned with moral action and its motivating causes and not with moral judgment per se.

A review of the literature indicates a failure to find any strong relationship between moral judgment and moral action. Lickona (1976), Kohlberg (1969, 1971), Rest (1974) and Blasi (1980) state that attempts to correlate moral judgment with moral action have resulted in only low positive correlations. Thus, it may be concluded that moral judgment and moral action develop independently as MacRae (1954), Grinder (1964) and Dreman (1976) suggest, but this conclusion is at variance with the theory of the unity of human personality (Blasi, 1980). Aronfreed (1968) states that there should be some predictable relationship between what a person knows to be correct and his actions. He places the failure to find such a relationship on the difficulty of constructing a strong experimental situation in which these factors will exhibit themselves clearly. However, the moral judgment literature (Kohlberg, 1969) indicates that a gradual

transition from an external moral orientation to an internal moral orientation takes place which is closely associated with chronological age. A similar transition seems to take place in the area of incentive motivation. Witryol (1965) and his associates have shown that younger children are motivated by material, external incentives while older children are motivated by internal incentives such as verbal praise or knowledge of one's own success. Thus, if these two transitions take place simultaneously, it should be possible to demonstrate a differential effect of incentive on differing stages of moral judgment.

It is proposed in the present research to measure moral judgment by administering Rest's Defining Issues Test and using an internal-external incentive as an independent variable with academic cheating behavior as the dependent variable. Cheating behavior has been selected as the dependent variable because, while it is generally judged to be an immoral act, it is a behavior that is widespread throughout all academic settings. It is hypothesized that although it is judged to be immoral by the subject population, cheating behavior will occur if the incentives are such as to motivate the behavior.

CHAPTER I

REVIEW OF THE LITERATURE

In any democratic society, political thought is closely allied with moral thought (Lockwood, 1976). Ideas of social justice, fair competition, honesty and the value of human life are at one and the same time political and moral values. The connection of moral judgment and moral action lies at the heart of most questions of social morality. The naturalistic and experimental methodologies used in the investigation of moral development have received impetus from three of the more popular twentieth century psychological approaches: Cognitive-Developmental, Psychoanalytic and Behavioral.

The review of the literature will begin with a brief overview of the origins of the cognitive-developmental stage model followed by a description of the stage model by its contemporary representatives (Kohlberg, 1958, 1969, 1971; Rest, 1969, 1974, 1975; Turiel, 1969, 1974). A review of the psychoanalytical and behavioral approaches to moral development will follow, ending with a review of pertinent literature on incentive and cheating behavior.

Cognitive-Developmental Stage Theory of Moral Judgment

The label "cognitive-developmental" refers to a set of assumptions and research strategies common to a variety of specific theories of social and cognitive development, including the theories of Baldwin (1906), Dewey (1930), Mead (1934), Piaget (1932), Loevinger (1966) and Kohlberg (1958, 1969, 1971).

Cognitive-developmental theories are based on several assumptions. The first of these assumptions is that basic development involves transformations of cognitive structures which cannot be defined or explained by the parameters of associationistic learning (contiguity, repetition, etc) and which must be explained by parameters of organizational wholes or systems of internal relations. Secondly, the development of cognitive structures is the result of processes of interaction between the structure of the organism and the structure of the environment rather than being the direct result of manipulation or the direct result of learning. Thirdly, these cognitive structures are schemata of action. Fourthly, the direction of this cognitive development is toward greater equilibrium between the organism-environment interaction. Fifthly, affective development and functioning and cognitive development are parallel representing different perspectives and contexts in defining structural change. There is a fundamental unity of personality organization and development termed the ego or the self. While there are various strands of social development, these strands are united by their common reference to a single concept of self in a single social world. The direction of social or ego development is also toward an equilibrium or reciprocity between the self's actions and those of others toward the self.

In the early twentieth century, the field of epistemology was dominated by British Associationism and German Gestalt psychology. Into this arena, Piaget brought a different perspective --- that of a developmental, sequential process in the growth of individual thought processes. The work of Piaget marks the beginning of modern

research into the cognitive abilities of the human individual. Piaget's theory, however, was not immediately accepted by the psychological and scientific community, based as it is on naturalistic observations (Chaplain & Krawiec, 1974). While Piaget stands aside from the traditional British-German-American trends in psychology, his work has made itself felt throughout the psychological world and has stimulated a considerable amount of research.

Piaget's investigations into the process of moral development is part of his larger investigation of the whole of human thought development. Piaget was concerned primarily with the developing thought processes of children. Departing from the deductive methodology of the philosophers, Piaget sought empirical evidence that human beings progress in an ordered fashion from concrete mental concepts to the comprehension of abstract concepts. To this end, Piaget (1928) interviewed individual children and presented them with intellectual concepts of varying degrees of abstractness and noted the degree of comprehension of each concept among the various age groups. He found that most children fell into the same category of comprehension according to their chronological age. This categorization was directly dependent on the degree of abstractness involved in the concepts presented.

From these observations, Piaget formulated his two stage theory of intellectual development: Concrete thinking and Formal thinking. Piaget (1928) found that the concrete-egocentric thinking of the child differed greatly from the formal-logical thinking of the adult but that the child's thinking process leads to the formalistic thinking of the adult through definite developmental stages clearly associated with chronological age.

Turning his attention to the development of moral thought, Piaget (1932) hypothesized that part of the morality of the individual lies in his ability to perceive situations as being moral and in the intellectual ability to form the proper judgment in regard to the given situation. Wishing to investigate the intellectual aspects of morality, Piaget employed his method of individual interviews, and presented a series of brief stories, each centering on a moral issue, to more than one hundred Swiss children and, on the basis of their responses, distinguished two major stages of moral thought.

The first stage which he called "moral realism" is based on an ethic of authority. The child views moral rules and restraints as laid down from above; they must be interpreted literally and cannot be changed. In accordance with the principle of "immanent justice", punishment follows inevitably upon violation and its severity varies directly with the enormity of the consequences of action regardless of the motives which inspired it. At this level of development, moral values are not internalized but are simply "rules" that remain external to the personality. They are observed because of fear of external punishment by superordinate authority.

In contrast to the stage of moral realism, the more mature stage of "cooperation" is characterized by the ethic of mutual reciprocity. Rules are seen as contracts arrived at and maintained by equals in the common interest. They may be changed by mutual consent or modified in the light of extenuating circumstances. Punishment, instead of being generalized and expiatory, is specific to the transgression, aimed at reciprocity in kind or restitution and is guided by the principle of "equity" involving consideration of the motive underlying the act and of the particular

circumstances in which the transgression was committed. Moral principles, at this stage, are internalized and become true moral values so that the child acts morally without the necessity of external sanctions. The child then acts in a moral manner, not because he is afraid of external punishment but because he himself wants to act in the proper way.

The several dichotomies implied in the two stages were distinguished on the basis of the child's responses to specifically designed stories and questions. For example, to distinguish moral rules based on consequences from those based on motives, Piaget employed the following story:

A little boy who is called John is in his room. He is called to dinner. He goes into the dining room. Behind the door there was a chair and on the chair there was a tray with fifteen cups on it. John couldn't have known that there was all this behind the door. He goes in, the door knocks against the tray, bang go the fifteen cups and they are all broken!

Once there was a little boy whose name was Henry. One day when his mother was out, he tried to get some jam out of the cupboard. He climbed up on to a chair and stretched out his arm but the jam was too high up and he couldn't reach it and couldn't have any. While he was trying to get it, he knocked over a cup. The cup fell and broke (Piaget, 1932).

After each story, Piaget would ask the questions: "Are these children equally guilty?" "Which of these two children is the naughtiest and why?"

As a means of distinguishing types of punishments, the following story and questions were used:

A boy has broken a toy belonging to his little brother. What should he do? (1) Should he not be allowed to play with any of his own toys for a week? (Expiation); (2) Should he give his brother one of his own toys? (Reciprocation); (3) Should he pay for having it fixed? (Restitution). (Piaget, 1932).

"Immanent Justice" was assessed by the following story:

In a class of very little children the teacher had forbidden them to sharpen their pencils themselves. Once, when the teacher had her back turned, a little boy took the knife and was going to sharpen his pencil but he cut his finger. If the teacher had allowed him to sharpen his pencil, would he have cut himself just the same? (Piaget, 1932).

Piaget found that, based on age categorization, the responses to these stories were remarkably similar. As the child advanced in age, his responses changed from an external consideration of the 15 cups to the internal motives of the jam-getter.

Bronfenbrenner (1962) points out that an impressive number of studies over a quarter of a century on two continents have substantiated age differences consistent with Piaget's postulated shift from moral realism toward reciprocity and equity. These studies may be classified according to country: from England, the studies of Harrower (1934), Morris (1958) and Peel (1959); from Switzerland the studies of Lerner (1937); from Belgium: Caruso (1943); from Italy: Ponzo (1956); and from the United States: Dennis (1943); Liu (1950); MacRae (1954); Havighurst and Neugarten (1955); Medinnus (1957, 1959); Kohlberg (1958, 1959, 1963, 1966a, 1966b, 1969, 1973); Durkin (1959a, 1959b); Boehm (1962a, 1962b) and Boehm and Nass (1962). Boehm and Nass (1962), summarizing most of these studies, conclude that "age is the only consistently operative factor in development toward moral maturity" (p. 10). They pointed out that Piaget was concerned mainly with the intellectual determinants of moral growth but neglected the strong trends toward sociocultural determinants. Thus, it should be noted that the first attempts to verify Piaget's theory turned up highly significant differences across both class and culture (Bronfenbrenner, 1962).

The English psychologist Harrower (1934) sought to determine whether Piaget's findings could be replicated using children of the same age range in another country and from different social class levels. Accordingly, she selected a comparable sample from schools in the poorer parts of London and, in addition, as a control group, youngsters from distinctly

well-to-do homes (Harrower, 1934, pp. 83-84). The results from the lower class were consistent with Piaget's theory in showing a decrease in moral realism with age. Quite a different pattern emerged at the higher social level where the younger children from the very beginning gave high percentages of mature responses nor was there any evidence of a shift over the age range. The author concluded that:

Either the stages of development which Piaget has been emphasizing are not a universal characteristic of development per se, but are to be found only within certain uniform groups, groups which are subject to certain constant conditions; or, in certain environments, these stages can be so far accelerated that children exhibiting characteristics of the most developed stage are to be found at the ages of the first (p. 93).

Harrower argues further that if the second hypothesis is correct, she would be able to find substantial evidence of moral realism among still younger children in the cultured environment. Since she was unsuccessful in turning up responses of this kind among youngsters below the age of six, she was inclined to support her first hypothesis but it must be noted that the differences in the subjects' I.Q. were not taken into consideration. It has subsequently been shown that the development of moral judgment is closely related to intelligence (Kohlberg, 1969, Hoffman, 1977). This early research of Harrower can be called into question because of her failure to consider I.Q. and other relevant factors.

Confirmatory evidence for Harrower's conclusions, however, comes from a series of studies of class differences in moral development conducted in the United States (Lerner, 1937; MacRae, 1954; Kohlberg, 1959; Durkin, 1959a, 1959b; Boehm & Nass, 1962), and even more forcefully, from cross-cultural data (Dennis, 1943; Liu, 1950; Havighurst & Neugarten, 1955; Boehm, 1957).

Bronfenbrenner (1958), however, points out that the cultural and social class differences appear to be narrowing; Lickona (1976) substantiates this conclusion. The narrowing of these differences may be attributed to the ease of communication and the equality of education across social classes and among different peoples.

Because of his theory, Piaget (1932) was primarily interested in the intellectual structures of moral development. It was Piaget's hypothesis that, as a child came to know what should be done, it would be carried out in action. This assumption of Piaget has been called into question by the work of MacRae (1954), Kohlberg (1969), Durkin (1959b) and Maccoby (1959). Each of these investigators note from their data that the presumed components of morality do not hang together empirically. The first and most comprehensive study of this phenomenon is by MacRae (1954) who did a cluster analysis of responses to moral judgment questions holding age constant. He identified four relatively independent factors concluding that there are two distinct processes of moral development: (1) cognitive moral development involving the learning of whatever behavior patterns are approved and disapproved, and (2) emotional moral development, including the association of anxiety with one's own deviance and moral indignation with that of others (p. 17). MacRae points out that the type of questions used by Piaget are concerned primarily with cognitive moral development. One feature contributing to MacRae's observation is the pervasive use of "should" and "ought" in the questions employed in Piaget's interviews. In other words, the child is asked to state what he believes to be the right course of action and not to indicate what he would actually do in the given situation. MacRae's comments point up the extent to which the division

between moral judgment and moral action had gone. It was not until the early 1950's that researchers sought to bring the two together by asking not only what was the correct action but what one thought he would do in the given situation.

Bronfenbrenner (1962), in commenting on this early research of Piaget's assumptions and conclusions, points out that Piaget unjustifiably minimizes the influence of the environment on a child's understanding of what is just. Furthermore, as between the two alternative hypotheses proposed by Harrower, the weight of the evidence throws doubt on the possibility that two stages are present but follow each other so rapidly in some cultures that they are difficult to distinguish. Rather the cultural and sub-cultural departures from Piaget's norms support Harrower's preference for the alternative hypothesis that the two-stage sequence is to be found only in certain uniform groups subject to certain constant conditions. Again, Harrower's failure to consider the I.Q. of her subjects could serve to call her conclusions into question.

It could also be noted that the range of variation in moral development by age, class and culture is so great as to call into question the dominant role of maturational factors, at least beyond the age of five. It would appear that under appropriate environmental conditions, children as young as six can learn equally well responses characteristic of Piaget's moral realism or the patterns of moral reciprocation, equality and equity indicative of moral maturity. In a word, the primary factors determining the nature of moral development appear to be social and situational rather than totally genetic. It should be noted that the preceding conclusion is not incompatible with the manifestation of orderly sequences of moral

development in certain cultural contexts since such genetic sequences may only mirror the changing character of the child's relation to his social environment as he grows older. Thus, the classic two-stage sequence observed by Piaget could be a reflection of the fact that European children of his day and age tended to be dealt with in a rather authoritarian and arbitrary fashion through the early years and exposed to rationalistic, equilateral treatment only at later ages.

In support of the behavioral tradition, Bronfenbrenner (1962) states that the various manifestations of moral development posited by Piaget, while they may be correlated in a particular cultural context, are most appropriately regarded as separate variables representing responses to specific social-situational influences (Bronfenbrenner, 1962, p. 8).

Bronfenbrenner (1962) concludes his critique of Piaget's work by bringing in the concept of the emotional aspects of morality and its relationship to moral action. He notes that the aspects of moral development studied by Piaget are primarily cognitive, evaluative, and conscious. In particular, they reflect the child's knowledge of the ideal norms held up to him by his culture. As such, they shed little light on the emotional covert and behavioral aspects of moral standards and development.

While these observations are insightful, it must be noted that Piaget realized that he was restricting his concept of morality and his research to only one area --- that of moral intellectual judgment (Piaget, 1932). This is not to say that Piaget thought that the cognitive judgment comprised the whole of moral development. It does, however, demand that modern investigators make an effort to combine all three factors of morality in their research; that is, cognitive, affective and behavioral.

Piaget was the forerunner of investigations into the determinants of individual morality. His book, The Moral Judgment of the Child (Piaget, 1932) offered much of heuristic import in defining the domain of morality, disclosing differences in the moral conceptualizations of younger and older children, illustrating techniques for gathering information about the thought processes underlying children's moral behavior and in demonstrating the relevance of cognitive-developmental theory to research in the area of morality.

Although Piaget's monograph was enthusiastically received by the scientific community, his experimental methodology of individual interviews together with his underlying philosophy of structuralism in the development of cognitions were not. It was not until Kohlberg, at the University of Chicago in the late 1950's, began his research that the now current cognitive-developmental structuralism gained acceptance.

Kohlberg (1958), following the orientation of Piaget, conceived of moral development from a structural point of view. He maintained that the organization of the child's thinking is qualitatively different from that of the adult. He also held that the study of moral development must include a sequential stage analysis of developmental changes. Kohlberg (1969, 1976) presented a detailed account of the characteristics of the structural model of cognitive-developmental stage theory. First, he distinguished his own structural model from socio-environmental stages which are age-linked social roles or developmental tasks. Secondly, the cognitive structural model distinguishes between quality and quantity in age related change; developmental growth involves qualitative changes.

A third and related distinction involves the competence-performance dimension; quantitative changes in response are regarded as changes in performance. A change in structural competence is only assumed to have occurred when such response changes manifest themselves in a qualitatively new pattern or mode of response; consequently, structural stage theory discerns form from content; a novel mode of response differs in its form (organization) rather than simply in the information (content) contained therein (Julius, 1978). Thus, age changes, from a structural perspective, involve only those where qualitatively new organizational patterns of response can be demonstrated, bringing to bear increased competence to deal with moral problem-solving.

Kohlberg ascribes further characteristics to the various stages of development. Each pattern of response represents a "structured whole"; that is, a given stage response does not represent a specific response determined by knowledge or task familiarity but rather represents an underlying thought organization. These developmentally different structures form an invariant sequence in ontogenetic development. It is important to note that for Kohlberg cultural and/or social factors may accelerate, retard or even arrest the developmental procedure but they do not determine its sequence. The successive stages are hierarchically integrated. The structures found at each level become integrated into the next higher stage structure. Lower stages do not drop out and access to them remains possible because of their integration into the next higher level. It is up to the individual to decide at which of the already acquired levels of judgment he wishes to respond. This decision may be influenced by, but quite free from, external pressures.

In his initial research, Kohlberg (1958) interviewed seventy-two boys ranging in age from ten through sixteen. Exhaustive analyses of the group's responses to several hypothetical moral dilemmas based on theoretical formulations provided by Baldwin (1906), Mead (1934) and Piaget (1932), yielded a typological stage model consisting of three main levels of moral thought, classified as the preconventional, conventional and postconventional, each with two sub-stages. The lower stages are seen in the elementary school years, while the middle stages are seen in most high school students with the introduction of the more advanced stages in the later high school years (Sullivan, 1975). Kohlberg's (1971) stages and levels of moral maturity are described briefly as follows:

I. PRECONVENTIONAL LEVEL

At this level the child is responsive to cultural rules and labels of good and bad, right and wrong, but interprets these labels in terms of either the physical or the hedonistic consequences of action (punishment, reward, exchange of favors), or in terms of the physical power of those who enunciate the rules and labels. This level is divided into two stages.

Stage 1: The punishment and obedience orientation --- The physical consequences of action determine the goodness or badness of an act regardless of the human meaning or value of these consequences. Avoidance of punishment and unquestioning deference to power are valued in their own right, not in terms of respect for an underlying moral order supported by punishment and authority (the latter being stage 4). There is no internalized sense of right and wrong --- only a fear of consequences.

Stage 2: The instrumental relativist orientation --- Right action consists of that which instrumentally satisfies one's own needs and occasionally the needs of others. Human relations are viewed in terms like those of the market place. Elements of fairness, of reciprocity and of equal sharing are present, but they are always interpreted in a physical pragmatic way. Reciprocity is a matter of "You scratch my back and I'll scratch yours", not of loyalty, gratitude or justice. The stage 2 respondent has no moral commitment and would act in terms of personal pleasure only.

II. CONVENTIONAL LEVEL

At this level, maintaining the expectations of the individual's family, group or nation is perceived as valuable in its own right, regardless of immediate and obvious consequences. The attitude is not only one of conformity to personal expectations and social order, but of loyalty to it, of actively maintaining, supporting and justifying the order and of identifying with the persons or group involved in it. This level also has two stages.

Stage 3: The interpersonal concordance of "good boy --- nice girl" orientation --- Good behavior is that which pleases or helps others and is approved by them. There is much conformity to stereotypical images of what is majority or natural behavior. Behavior is frequently judged by intention --- "he means well" becomes important for the first time. One earns approval by being "nice".

Stage 4: The law and order orientation --- There is orientation toward authority, fixed rules, and the maintenance of the social order. Right behavior consists of doing one's duty, showing respect for authority and maintaining the given social order for its own sake.

III POSTCONVENTIONAL, AUTONOMOUS OR PRINCIPLED LEVEL

At this level there is a clear effort to define moral values and principles which have validity and application apart from the authority of the groups of persons holding these principles and apart from the individual's own identification with these groups. This level again has two stages.

Stage 5: The social-contract legalistic orientation --- This stage generally has utilitarian overtones. Right action tends to be defined in terms of general individual rights and standards which have been critically examined and agreed upon by the whole society. There is a clear awareness of the relativism of personal values and opinions and a corresponding emphasis upon procedural rules for reaching consensus. Aside from what is constitutionally and democratically agreed upon, the right is a matter of personal "values" and "opinion". The result is an emphasis upon the "legal point of view" but with an emphasis upon the possibility of changing law in terms of rational considerations of social utility. Outside the legal realm, free agreement and contract is the binding element of obligation.

Stage 6: The universal ethical principle orientation --- Right is defined by the decision of conscience in accord with self-chosen ethical principles appealing to logical comprehensiveness, universality and consistency. These principles are abstract and ethical; they are not concrete moral rules like the Ten Commandments. At heart, these are universal principles of justice, of the reciprocity and equality of human rights and of the respect for the dignity of human beings as individual persons.

Kohlberg has maintained that his stage model is universally applicable, invariant in sequence and hierarchically ordered (1958, 1963, 1969, 1971). Based as it is on the cognitive-developmental notion of increasingly differentiated and hierarchically organized cognitive components, Kohlberg asserts that moral development proceeds through a step-wise sequence with the attainment of the higher stages being impossible without first having gone through the lower stages.

Research on the question of sequentiality generally is supportive of Kohlberg's views. Turiel (1966) found that when twelve and thirteen year old children were exposed to moral concepts representative of one stage above (+1), two stages above (+2) or one stage below (-1) their own stage level, those children exposed to the +1 reasoning made significant use of that stage on a posttest one week later. Children exposed to the +2 reasoning showed no change from pretest scores and those exposed to the -1 reasoning made significantly less use of the concepts involved than children in the +1 group. Turiel concluded that these findings indicate that the moral stages form a developmental continuum where reasoning too developmentally advanced (+2) cannot be assimilated and reasoning below that of the child's dominant stage (-1) is less adaptive in its accommodative capacity to deal with moral problem-solving and is therefore rejected. A study by Rest, Turiel and Kohlberg (1969), using twenty-two children, ten to twelve years of age, and twenty-three children, thirteen

to fourteen years of age, produced similar results to Turiel's (1966) study and further demonstrated that comprehension of various stage responses decreased as these responses were further separated from the child's own dominant stage of moral reasoning. Additionally, preference for higher stage reasoning (+1 and +2) was indicated while lower stage reasoning was consistently rejected and judged to be inadequate. Rest (1973) in a study using high school seniors demonstrated similar findings. Tracy and Cross (1973), utilizing a paradigm similar to that used by Turiel (1966) corroborated Turiel's findings with some important qualifications. They employed seventy-six, 7th grade boys who were pretested with Kohlberg's verbal moral dilemmas and subsequently exposed to +1 reasoning advanced by two adult models within the context of discussions of hypothetical moral dilemmas. Their findings indicated differential effectiveness of the experimental treatment for boys at different levels of moral judgment. Preconventional subjects demonstrated significantly greater upward shifts in the reasoning on the posttest interview than did the conventional subjects. The authors concluded that the greater advances made by the preconventional children supports the notion of a "ceiling effect" in the influence of treatment in inducing upward shifts in moral reasoning. The higher the initial level of moral reasoning the more the possible amount of change is restricted, possibly because the higher level children (stages 3 and 4) did not yet have the prerequisite formal operational thinking to advance in their moral reasoning to the principled level.

An investigation by Turiel and Rothman (1972) supports the previous research findings in an experiment exploring the influence of higher stage

reasoning within the context of a behavioral situation. Forty-three pre-adolescent boys were pretested on Kohlberg's moral dilemmas and later observed in a learning situation where a peer was instructed to deprive the "learner" of chips (money) whenever he made a mistake in spelling a list of words. Before each subject's turn as experimenter, he was exposed to a +1 or -1 reasoning put forth by two adult models. They suggested that the experiment be continued or stopped. The results indicate that +1 reasoning, regardless of which argument was advanced, significantly influenced the behavior of stage 4 boys whereas it had no effect on the behavioral choices of stage 2 or stage 3 boys who, as a group, chose to continue the experiment. Turiel and Rothman (1972) concluded that the higher stage boys were more adequately able to integrate the higher stage reasoning with their behavior whereas the stage 2 and stage 3 boys segregated higher stage reasoning from their actions.

An experiment by Keasey (1973) further supported the cognitive-developmental view that stage advancement is a gradual process. He found that pre-adolescents exposed to a model using higher stage reasoning induced immediate change but this exposure was no more successful than other paradigms in maintaining long term reasoning changes.

LeFurgy and Woloshin (1969), in a study of adolescents, placed each subject in a peer group situation where everyone else present displayed a level of moral reasoning either above or below that of the subject. A significant proportion of the subjects adjusted their thinking to fit that of the group whether this involved an upward or downward accommodation. While this effect could be detected three months later, the long term

effect of the upward movement was much stronger than that of the downward influence which suggested a significant lessening over the three month period. The authors concluded that while changes in reasoning can be induced in either direction, long term changes are more prevalent in an upward direction.

It would appear that the bulk of the research supports Kohlberg's theory that children progress from stage to stage and that, while it is possible to influence their progress or retrogression, this effect is not lasting unless the child is ready developmentally to make the stage advance (Napier, 1979).

The research relating chronological age with stage of moral judgment is also generally supportive of Kohlberg's findings (Kohlberg, 1958, 1963; Kohlberg & Kramer, 1969; Turiel, 1969; Boehm & Nass, 1962; Rest, 1973; Kuhn, 1976). The age trends found by these studies have been supported by cross-cultural studies in Formosa, Turkey, Mexico and the Bahamas (Kohlberg, 1969; White, 1975). This cross-cultural evidence supports the contention of cognitive-developmental theory that differentiates the content of moral thought from its underlying structural base. Despite different norms, mores and values across cultures, certain general concepts are used in making moral judgments; that is, concepts of self-interest, power invested in others, existing bonds of kinship and affection and the expectations of the reference group (Julius, 1978). Kohlberg (1958, 1963, 1969) has asserted that despite differences in environment and cultural values, the underlying cognitive structures differentiate his six stages of moral development.

Longitudinal research also supports Kohlberg's contention of an upward movement with increasing age (Kohlberg and Kramer, 1969; Kuhn, 1976). In Kohlberg and Kramer's long term follow-up of Kohlberg's original (1958) sample of seventy-two middle and lower class boys, upward shifts were demonstrated in both groups of boys with stage 4 reasoning found to be predominant. The authors concluded that their evidence demonstrated the invariance of the developmental sequence of stages. Kurtines and Grief (1974) objected that the evidence did not prove that stage 4 subjects ever passed through stages 2 and 3 or that people pass through these stages in any ordered fashion.

Kuhn (1976) attempted to demonstrate the sequentiality of upward shifts. She interviewed fifty children five through eight years of age at two, six month intervals. Her results revealed inconsistencies over the six month period but over the twelve month period she found significant progressive change. This change consisted in a gradual advancement toward the next higher stage in the sequence.

Kohlberg and Kramer's (1969) study would seem to support Kurtines and Grief's (1974) later objection that there is no demonstration that people pass through the stages in any ordered fashion since Kohlberg and Kramer found that between high school and the second or third year of college, twenty percent of the individuals dropped in moral maturity scores. They defined retrogression as a drop in score greater than any found in a two month test-retest sample. The drop occurring in twenty percent was found to occur more often in those who had been among the highest in high school having an admixture of conventional (stage 4) and principled (stage 5)

thought. At retesting, after college graduation, they were again found to be among the highest, having returned to stage 5 with some progressing to stage 6.

Based on this evidence, Kohlberg argues that the retrogression to the hedonistic relativism of stage 2 during the college years is more a functional than a structural regression, based on three facts: (1) this group continued to evidence some use of stage 4 and 5 in their responses; (2) when asked to give what would generally be conceived of as a high moral response, they tended to give stage 4 responses; (3) the fact that this group returned to conventional and principled modes of moral thought suggests that these stages were not lost but merely put aside for a time. Kohlberg argues that this retrogression may be due to other factors such as personality variables in that college students are viewing their approaching obligations to earn a living with all the other responsibilities of adult life. With these factors confronting them, they may temporarily revert to the "happier days" of their childhood with the concomitant moral thinking of childhood. This retrogression, however, has been shown to be temporary and that they will take on the thinking of stage 5 or 6 after graduation. Thus, Kohlberg and Kramer labelled this retrogression stage 4 1/2 to designate its transitional quality as a way of thinking which equates morality with stage 4 thought and then questions the validity of morality as conceived in these terms.

The research in support of Kohlberg's theories and that opposed to them is ongoing (Turiel, Rest & Kohlberg, 1978; Reimer, 1977; Leming, 1978; Blasi, 1980). While minor tenets of the cognitive-developmental

stage theory may be called into question, it would appear that the major foundation of the theory, that of structural, sequential stages has been empirically demonstrated reliably enough to base further research upon such a model.

Thus, it may be concluded from Kohlberg's research that as the person develops along the moral judgment continuum, his major concerns and incentives become more internalized; that is, a person's overt behavior becomes more influenced by internal needs such as self-concept, self-worth and self-competition. This is not to say that a person become oblivious to external incentives but that he will be motivated by external incentives only insofar as they are related to personal, internal needs. The person at the stage 3 level of moral judgment, however, will be motivated by the attraction of an external reward in and of itself and is not expected to respond to a purely internal incentive. For these reasons, it is expected that a person's moral behavior may be controlled and predicted through the use of various types of incentives, given the knowledge of his stage of moral judgment.

The Defining Issues Test

A weakness that may be stated against Kohlberg's research is his use of verbal moral dilemmas in a one to one interview. This would seem to allow for a large error variance depending on the verbal abilities of each subject. Children of the same age but with various verbal abilities may not be able to express their thoughts equally well and therefore their scores will be different if Kohlberg's moral dilemmas are used. Another experimental difficulty would seem to lie in the judgment of the content of

each interview. According to Kohlberg's system, the responses are to be judged independently by several judges according to several determined categories. This would seem to give the total score of each interview into the hands of subjective judges. Individual interviews also are restrictive of the number of subjects that can be conveniently accommodated for a given study.

The need, then, was for an objective test with standardized scores to correspond with Kohlberg's six stages. Such a test was devised by Rest (1974), a student of Kohlberg. The Defining Issues Test (Appendix 3) consists of six stories that are based on Kohlberg's verbal moral dilemmas. The subject is asked, not what he thinks should be done by the participants in the story, as is the case in Kohlberg's moral dilemmas, but rather which of the given twelve statements the subject feels are more important in the solving of the dilemma. In Kohlberg's dilemmas, the subject is free to say whatever he wants about each dilemma. In Rest's objective system, a list of twelve issue statements is presented to the subjects, each issue statement representing one of Kohlberg's moral judgment stages. Note is taken of which issues a subject chooses as most important in making a decision about what ought to be done in the dilemma. The way a subject judges which are the most important issues over a number of moral dilemmas is taken to be an indication of his appreciation of different conceptual frameworks or stages.

The basic difference between Kohlberg's moral dilemmas and Rest's D.I.T. is in the method of data collection. Kohlberg's moral dilemmas are given in a free-response mode and then a scorer uses a standardized system

to classify the responses. Rest's objective scoring system presents the subject with a set of standardized alternatives representing the scoring categories and asking the subject to rate or rank them. In the first case the scorer judges how the subject's thinking fits the categories, whereas in the second case the subject, in effect, scores his own test by deciding the fit by indicating the statements that are closest to his own judgment.

Although there have been other attempts to assess moral judgment by an objective format (Buchanan & Thompson, 1973; Carroll, 1974; Costanzo, Coie, Grument & Farnill, 1973), the D.I.T. has stood up under the stress of experimental validation and is closely related to Kohlberg's six stages.

The D.I.T. has undergone several revisions to make it more discriminatory of Kohlberg's six stages. The present form is a revision made after analyzing many interviews conducted according to Kohlberg's interview system. The items on the D.I.T. have been keyed on the moral dilemmas of Kohlberg and would seem to serve the purposes of the present study most adequately.

The initial validation study of the D.I.T. was carried out by Rest (1974) and his associates using approximately two hundred junior high school, senior high, college undergraduates and graduate level students of both sexes. They found the D.I.T., particularly the principled reasoning score (P-score) sensitive to developmental trends, differentiating the various student groups ($F = 48.50$, $p < .01$). They also found a correlation of .62 of the D.I.T. with age. Test-retest stability over a two week period with twenty-eight ninth graders yielded a Pearson Product-Moment correlation of .62; this was increased to .81 for the D.I.T. P-score.

Additional evidence supporting the D.I.T. as a developmental index came from correlations with other measures usually assumed to correlate with development. The D.I.T. P-score correlated substantially with Kohlberg's Moral Maturity Scale ($r = .68$), with comprehension of social-moral concepts ($r = .58$) and with attitude measures related to public policies ($r = -.41$, $p < .01$ with the Law and Order Test). A significant correlation was also found between the D.I.T. and the Differential Abilities Test ($r = .41$, $p < .01$), further supporting the developmental nature of the D.I.T. As persons develop cognitively, they come to define moral problems more complexly and advance to higher stage reasoning in the resolution of such problems than do less cognitively advanced persons.

Rest (1975) conducted longitudinal research on the D.I.T., retesting eighty-eight adolescents (sixteen through twenty years of age) from the original junior and senior high school samples, measuring progress via comparison of group means. Two year test-retest reliability on the D.I.T. was .68 for the younger group and .54 for the older group. The two groups were retested as well on the Comprehension of Social-Moral Concepts Test and the Law and Order Attitude Test. Significant developmental advances were found on all three measures (D.I.T. matched pairs $t = 5.50$, $p < .0001$; Comprehension $t = 5.40$, $p < .0001$; Law and Order $t = 3.55$, $p < .001$). No sex differences were found on any of the three measures and Rest found no evidence for step-by-step movement. Both the younger and older groups manifested significant increases in their P-scores while the younger group also showed shifts from preconventional to conventional reasoning.

Another significant finding was that among the senior group, those who continued on to college showed much more substantial gains in principled reasoning (P-score) than the non-college subjects, indicating the importance of formal education in the continuing development of principled moral reasoning. This is similar to Coder's (1975) findings where he found a significantly positive correlation ($r = .25$, $p < .01$) between level of education (college versus graduate level) and the D.I.T. P-score, using middle-ages adults as his research sample (Rest, 1976).

Rest (1976) summarizes the findings of various studies done using the D.I.T. He concludes that of all the variables examined in relation to the D.I.T., education and I.Q. have been found to be most consistently related. Age is positively correlated with the D.I.T. in student, but not in adult, groups. Sex, socio-economic status, political affiliation, vocation and demographic variables do not have clear or consistent relationships to the D.I.T. Some evidence has been found suggesting that intellectual climate, indicated by religious affiliation within individual congregations, is associated with moral judgment (Boehm, 1962).

Two further studies relate to the developmental nature of the D.I.T. Panowitsch (1975) administered the D.I.T. to two groups of college students enrolled in an ethics and a logic class. While both groups of students yielded comparable scores on the D.I.T. pretest, Panowitsch found that the ethics class had made significant gains on the posttest twelve weeks later ($p < .002$) in contrast to the logic class (quoted in Rest, 1976).

McGeorge (1975) asked one hundred forty-six undergraduates, tested twice on the D.I.T. at an eighteen day interval, to either fake bad or fake

good on either the first or second test administration. His results indicated that subjects were able to fake bad and thereby obtain significantly lower D.I.T. scores, especially when instructed to fake bad on the second test administration ($t = 3.83$, $p < .001$). Subjects were unable, however, to fake high. McGeorge concluded that his findings support the cognitive-developmental framework of the D.I.T. since subjects can easily recognize lower stage reasoning and respond accordingly when so instructed while higher stage reasoning is inaccessible thus precluding the ability to fake upwards.

In summary, based on the literature, it has been noted that individuals progress along Kohlberg's six stages and that this transition is one of external moral orientation to internal moral orientation. This transition, however, is confined to the intellectual judgment of the situation. Another perspective of moral development, that of psychoanalysis, views the affective, subjective origins of a moral sense within the individual; the next section will elaborate the findings in this area.

Psychoanalytic Origins of Moral Development

Freud and the later psychoanalysts recognize the influence of the rational, cognitive factor in the choice of actions but they are primarily concerned with why particular subjects act the way they do and why other subjects act differently. Freud (1930) and later psychoanalysts have much to say about the origin and workings of the moral sense in the developing individual from the subjective point of view. The moral sense for Freud is

directly linked to an individual's life experiences; from this stance, he is in conformity with the social scientists. The interaction between the individual's internal needs and his environment shapes the development of the superego, which, when internalized, forms a series of inhibitions and motives for action. It is this interaction of environment and superego that forms the basis of Freud's theory of conscience.

Freud viewed the socialization of the child from an intrapersonal vantage point. Whereas the cognitive-developmental theories of Piaget and Kohlberg are expounded in an empirical framework, the psychoanalytic theory must be gleaned from the writings of Freud over the course of his lifetime.

Freud's views of the socialization/moralization of the child are intimately tied up with his concepts of the dualistic nature of man, repression, identification, internalization, the Oedipus complex and, most of all, with the emergence of the superego.

In Freud's view, the gratification of instinctual needs comes into conflict with society, whose needs, in turn, are seen as running counter to those of the individual. The needs of the person are seen as individual, hedonistic needs that have a biological origin. These individual needs must be repressed for the good of society. According to this conception, the only kind of society that could be reconciled with the expression of egoistic urges would be a totally immoral society (Bieber, 1972). For Freud, the instinctual-hedonistic urges of the child must be controlled by adult society through fear and guilt imposed by parental and societal authority.

Freud, in his Three Theories of Sexuality (1905), defines instinct as a stimulus arising from within the organism, a need which is abolished by satisfaction but cannot be escaped from by avoiding action, as could an external stimulus. Instinct, for Freud, is not the same as a wish or desire. Instinct is a drive, a motive power that can be satisfied only through a need-reducing action or through sublimation. Thus, if a child is going to be restrained from an aggressive or sexual act, he must be externally restrained by parents and society until he is old enough to employ the process of sublimation.

A major suggestion concerning the origin of the ethical tendencies of the ego is to be found in Freud's paper On Narcissism (1914). Here Freud distinguishes object-libido (love of another) from ego-libido (love of oneself). A human being originally has two love-objects, "himself and the woman who nurses him" (p. 88). If one assumes the quality of libido to be given, then the more one loves oneself the less one can love others. In childhood, apart from the love for "the woman who nurses him", the libido is largely ego-libido. But in the course of normal development, the child becomes interested in and attached to other people; that is, a proportion of libido becomes object-libido. When this happens we have a "picture" of the object of attachment as of actual or potential sources of satisfaction (Graham, 1972).

As a child grows up, more of his libido is normally absorbed by object-attachments but he is unwilling to forego the narcissistic perfection of his childhood and he is disturbed by the admonitions of others and by the awakening of his critical judgment so that he can no longer retain that

childhood perfection. He seeks to recover it in the form of an ego-ideal. What he projects before him as his ideal is the substitute for the lost narcissism of his childhood. Thus, the ego-ideal represents a kind of idea or fantasy of a perfect self as against the imperfect self which is the object of criticism. The main source of this criticism, which is the basis for the formation of the ego-ideal, is the parents, although they are reinforced by all those who influence the child. Once this ego-ideal has been formed, failure to meet its standards leads to a sense of guilt which was originally the fear of losing the parents love. Freud specifically equates this "special institution in the mind" with conscience (1914).

Freud's major contribution to the theory of moral development, however, has been his connection of the process of identification with the confrontation involved in the Oedipus complex (Graham, 1972). Freud's fullest account of the identification process is given in Group Psychology and the Analysis of the Ego (1921). In speaking of the identification process Freud says:

It is the earliest expression of an emotional tie with another person... A little boy will exhibit a special interest in his father; he would like to grow up like him and be like him and take his place in everything. This behavior fits in very well with the Oedipus complex, for which it helps to pave the way (p. 105).

As Freud views it, at the same time the boy is developing an identification with his father, he is also establishing an object relationship with his mother. He wishes, not to be like, but to possess the mother. Freud claims that the Oedipus complex results from these two processes, identification with the father and object relationship with his mother

coming together. When this happens, the boy become jealous of his father and, as a result of his castration fears, the object relationship with his mother is given up and the identification with his father is rendered more powerful (Graham, 1972).

The ideal outcome of the Oedipal situation is for the Oedipus complex not just to be repressed, but to be subjected to destruction and abolition (Freud, 1924a, p. 177). Identification with the father means that the authority of the father is introjected into the ego and there it forms the kernel of the superego, thus the basis for normal guilt in the male child is established.

In the girl, the Electra complex escapes the fate that it meets in the boy and is instead only slowly abandoned. As a result, the superego is never so independent in its emotional origin. On the strength of this, Freud explains that what is ethically normal for women is different from what is ethically normal for men in that the former reveals less of a sense of justice and is less ready to submit to the exigencies of life (Furer, 1972).

In Moral Responsibility for the Control of Dreams (1924b) Freud writes, "It is remarkable that the more moral a man is, the more sensitive is his conscience" (p. 134). Freud seems to mean that the greater the number of repressed impulses, the stronger must be the superego or conscience which represents defense against these prohibited impulses.

Conscience or superego for Freud is a developmental result of growing up in society. He explains the origin of the superego as occurring when ...

...a portion of the external world has, at least partially, been abandoned as an object and has instead, by identification, been taken into the ego and there becomes an integral part of the internal world. This psychical energy continues to carry on the functions which previously have been carried on by the people in the external world; it observes the ego, gives it orders, judges it, threatens it with punishment exactly like the parents whose place it has taken. We call this agency the superego and are aware of it in its juridical function as our conscience (1938, p. 205).

Speaking of the formation of conscience and its connection with parental and societal influence, Freud wrote: "What it amounts to is that ... innate constitutional factors and the influence from the real environment act in combination" (1930, p. 130).

Once the proscriptions of parents and society have been internalized in the superego, the child is subject to feelings of guilt (Bieber, 1972). Bieber points out that the indiscriminate fear with the resultant guilt of violating directives of power figures may be differentiated from a cognitive conviction that one is performing an antisocial act. He suggests that the distortion does not rest upon the internalization of a fictitious superego as Freud postulated but that it depends on conviction, that is, on a strong confidence in one's own beliefs. He goes on to suggest that while these convictions may be the result of an automatic, submissive, uncritical acceptance of parental values and may be compatible with the concept of internalization, they may also represent independent thought arrived at through the selection of alternatives. Thus, Bieber introduces the element of free choice into the psychoanalytical constructs of id, ego and superego. Bieber continues:

...choice is particularly relevant as a child grows into adolescence and as he continues to form and to revise ideas and convictions

about questions of morality. The concept of automatic internalization of parental values does not account for human cognitions in determining individual judgments nor does it leave room for changing moral convictions as social maturation proceeds (p. 140).

In applying Freud's theory of superego development to adolescents, Esman (1972) points out that it is not the product of the Oedipus complex that is responsible for the final growth of the superego but that it is adolescence that forms "a second modal point for the definition of internalized values. If heir to anything, the superego, as we find it in the adult ... must be seen as the heir to the adolescent process" (p. 99). Jacobson (1964) also holds that adolescence is a recapitulation of the foregoing superego development. He discusses the formation of adult values and further strengthening of the superego in terms of the vicissitudes of the adolescent process. Major among these is the disorganization of psychic structures experienced in the early stages of adolescence. For Esman and Jacobson, old value identifications are subjected to merciless reappraisal. It is not until this process of re-evaluation has been completed that the superego can be said to be the person's own.

Esman prefers to view the superego as a subdivision of the ego and not as a completely separate psychic reality. This is in conformity with Freud's theory that the superego is a "grade within the ego" (Freud, 1923).

The writings of Anna Freud (1958), Spiegel (1958) and Erikson (1956) have focused on the reorganization of defenses and the formation of identity and self-image in adolescence as being a function of the ego and

its relationship with reality. This disorganization of values, identifications and self-conceptions are posited as causal by many Freudian theorists to the revolt against authority in all its forms --- parental, political and societal.

Based on the literature, it could be proposed that this disorganization of values may be the subjective cause of Kohlberg's stage of transition (Stage 4 1/2).

Morality, then, from the psychoanalytic viewpoint, is an admixture of parental values that have been internalized or rejected by the superego and the restraints placed by society. Morality becomes an opposition between instinctual needs and the demands of the environment for proper behavior.

The empirical testing of Freudian theory is extremely hazardous. Freud (1955) himself insisted that his concepts could be properly evaluated only by psychoanalytic patients or psychotherapists. Although attempts have been made to make Freudian theory susceptible to the scientific method (Sarnoff, 1971; Katz, Sarnoff & McClintock, 1956; Bishop, 1967), it would appear that Freudian concepts of human personality must remain in the realm of theory, at least for the present. Sarnoff (1971) observes that for ethical reasons, experimental manipulation of the interpersonal factors presumed to shape the individual's basic personality in childhood is precluded from scientific study (p. 262). Such factors, however, can be systematically investigated through longitudinal studies employing correlational methods of observation. Such correlational results can provide, at best, a highly circumstantial, albeit not a direct, basis for

making inferences about the validity of the theoretical account of the concept's ontogenetic determinants.

Another important perspective of moral development that remains to be reviewed is the more recent research of the Behaviorists. They have shown, through a vast amount of empirical research, that the moral actions of individuals can be induced or impeded by controlling the external reinforcement conditions that impinge on the life of the individual; a brief review of this research follows.

Behaviorism

Behaviorism began its ascent within the discipline of psychology in the early 1900's because of the acceptance of the natural science methodology of observation and measurement and the discarding of the previous methodology of introspection and deduction. Watson redefined the subject matter of psychology as "observable behavior" (Watson, 1914, p. 9) and discounted the introspective methodology of his predecessors. He wrote that mentalistic concepts such as "mind", "consciousness" and "image" have no place in a scientific, objective science pointing out that the introspective study of conscious processes such as sensations, affective states and imagery have resulted in disagreement and confusion even in the stronghold of the inner camp of the structuralists.

The subject matter of psychology for contemporary behaviorists remains, as it was for Watson, observable behavior. Modern behaviorism remains deterministic and mechanistic and strongly scientific in its measurements and observations. From the point of view of moral

development, behaviorists view moral actions under the general term of "socialization". The individual, being a living, knowing organism, is influenced in his behavior by the reinforcement conditions of his environment, that is, by conditions outside himself. In this most basic view, the behaviorists are at different poles from the cognitive-developmentalists and from the psychoanalysts.

In the now classic three volume study of Hartshorne and May (1928), in which honesty was the dependent variable, it was concluded that the quality of honesty did not emanate from an "inner entity operating independently of the external situation in which the individuals are placed". Hartshorne and May concluded that the quality of honesty and probably all other so-called moral virtues of man, are dependent on situational factors. Whether an individual acts morally or immorally is dependent on the given situation and set of circumstances in which he finds himself. If this view is held, then the individual becomes only a reactor to outside influences.

Burton (1963), in factor analyzing Hartshorne and May's original study, found that the first situational principle component accounted for at least 40% of the common variance. Burton, therefore, concluded that honesty is dependent on the situation but with a general trait, a "g" factor, that generalizes over situations.

MacKinnon (1938) constructed an experimental paradigm to test the theory that anxiety is the basis of the resultant conditioning. He found that both violaters and non-violaters exhibited a congruent and similar personality profile. Non-violaters were highly anxious while violaters were relatively free from undue anxiety. This would seem to support the

psychoanalytical theory that man conforms to the rules of society in order to avoid feelings of anxiety but that the repression of his biological needs and desires leads to further anxiety. It was MacKinnon's conclusion that personality is consistent across situations and is the basis for the moral/immoral actions of the person.

Following Hartshorne and May's general viewpoint of morality, Eysenck (1960, 1976) distinguished between knowledge/judgment of the situation and overt actions in that situation. He pointed out that delinquent actions are rarely the result of ignorance (1960, p. 11). The question to be asked, according to Eysenck, is not "Why do men do that which they know they should not do?" but rather, "Why and how do human beings learn to act in conformity with the dictates of society, however inconvenient and distressing these dictates may be, and however much they conflict with the individual's biological needs and drives?" (1960, p. 12). Eysenck answers his own question by suggesting that what is called "conscience" is, in reality, a conditioned anxiety response to certain types of situations and actions. For Eysenck, human morality and moral actions are the product of Pavlovian conditioning of the human organism by his environment through the production of anxiety. If this is true, how does it answer for the differing actions of different people in the same situation? Eysenck answers this by pointing out that people, like Pavlov's dogs, have differing nervous systems which make them more or less susceptible to conditioning. Psychopaths, when compared to normal people, are almost impossible to condition; individual differences then become explainable in terms of physiology. The end product of Eysenck's theory is that human

morality and moral actions are due simply to conditioning by the environment and have nothing to do with the person's ability to make moral judgments.

In contrast to the classical conditioning theory of Eysenck, the Social Learning theorists recognize that human beings are neither simple reactors nor simple instigators of their behavior. Social learning theory holds that people become socialized/moralized through an interaction of society and their own personalities. By making this statement, they have brought into conformity the psychoanalytic viewpoint with the behaviorist viewpoint. Human beings, it would seem, are motivated in their overt behavior by a plethora of incentives dependent on the given situation.

Aronfreed (1968) defines conscience as composed of value systems which mediate conduct in many areas of social behavior; thus, a person is more likely to steal a small amount of money than to commit murder because of his value system which tells him that it is more serious to commit murder than to steal, especially if it is a small amount. It should also be noted that by including the word "mediate" in his definition, Aronfreed has released the individual from being a simple reactor to the conditioning influences of society and raised him to being a free instigator of his own actions.

Aronfreed, in his many studies of the development of the human conscience and the production of moral/immoral actions, has accentuated the interaction between personality and environment. He has studied the relationship between moral behavior and sexual identity (1960), moral responses to transgression (1961), the origin of self-criticism (1964), the

effects of punishment on moral behavior (1966), the place of internalization in the moral process (1965, 1968), the problem of imitation in moral development (1968), the place of cognitive structure and nurturance in moral development (1963a) and the effects of punishment (1963b, 1968). In all of these studies Aronfreed points out that there is no simple method of predicting what a person will do in any given situation because of the interaction between the person, his environment, his upbringing and his cognitive structures.

In regard to the low correlations found between moral judgment and moral actions (Kohlberg, 1964, 1969), Aronfreed (1968) states:

There should certainly be some kind of predictable relationship between a child's expression of conscience and its overt conduct. But it is extremely difficult to build into situational assessments of actual behavior the same variety and situational complexity which can be presented hypothetically to elicit the child's verbal expression and application of values (p. 13).

In an attempt to find this "predictable relationship", behaviorists have embarked on a most prestigious enterprise. Following Aronfreed's experimental paradigm, Bandura has broken down the totality of moral behavior into its many component parts. In regard to parental and peer modeling, Bandura (1967a) has found that in the case of achievement standards and self-reinforcing patterns of behavior, if adult achievements and criteria for self-reward are relatively high, then children will be reluctant to emulate such high aspirations because to do so would result in frequent negative self-reinforcement of their performances. In addition, adults are viewed by children as too divergent in ability to serve as meaningful reference models (Bandura & Whalen, 1966). These restraining

forces can be overcome if the child has strong affective ties to the model (Bandura & Kupers, 1964). It would seem that the stronger model would be the subject's own peers (Bandura, Grusec & Menlove, 1967).

In an experiment to test the modeling influence of adult and peer models, Bandura, Grusec and Menlove (1967) found that children who were exposed to conflicting modeling cues were more inclined to reward themselves for low achievements than were children who had observed the adult models adhere only to high standards of self-reinforcement. Similarly, children imposed more severe criteria of self-reward on themselves when the adult model received social recognition for his high standard-setting behavior than when the model's stringent achievement demands went unrewarded. It was also found that the stringest modeling influence was exerted by peers. Contrary to expectation, children who had experienced a highly nurturant interaction with the adult model were more inclined to accept the low performance standards set by a peer than by a significant adult. It may be concluded that moral behavior may be determined by adults in some situations but the more effective model in all situations is the peer.

The fact of modeling effectiveness in the production of moral behavior has been shown by Bandura and his associates. That this modeling extends to the earliest child-rearing practices has been shown by the studies of Maccoby and her associates (1959, 1961, 1968). They have found that a child incorporates the actions and values of its parents and older siblings from the first moments of life. These modeling cues determine the later behavior of the child (Maccoby, 1961).

Bandura (1969) has shown that objective and subjective judgments exist together at all age levels. He found that children who differed in developmental levels proved equally responsive to the modeling influence in their moral judgments.

Many other studies have been conducted seeking the relationship between modeling and moral conduct (Bandura & Mischel, 1965; Bandura, Ross & Ross, 1963; Bandura & Walters, 1963b; Bandura, 1969; Hoffman, 1979), the nurturant quality of the model (Bandura, Grusec & Manlove, 1967), self-reinforcement (Bandura & Kupers, 1964; Bandura & Whalen, 1966; Marston, 1965; Mischel & Liebert, 1966) and child-rearing practices and later behavior (Maccoby, 1961, 1969; Sears, Maccoby & Levin, 1957; Sears, Whiting, Nowles & Sears, 1953; Whiting & Child, 1953).

Social Learning research of the external influences on the moral growth of the individual may be summarized by saying that it has shown a strong existing relationship between societal factors such as those mentioned above and the moral growth of the individual. However, these studies, like the cognitive studies, have separated moral development into discrete parts for purposes of research.

By concentrating on the external causes of behavior, the social learning theorists have added a new element to the study of moral development beyond that of the cognitive-developmentalists. It has shown that if an individual can effect changes in his environment because of his thought processes and judgment, the opposite is also true; the environment can effect changes in human thought and judgment.

Summary

In summary, it should be noted that while all three perspectives are viewing the same reality, they are all looking at it from different orientations. The cognitive-developmentalists (Kohlberg, 1969; Rest, 1973; Turiel, 1969) are concerned with substantiating cognitive structures and moral stages of judgment. Their research and theories deal mainly with the intellectual judgment of the morality of any given situation and not with whether that judgment corresponds to actual behavior. The psychoanalytic theorists, recognizing the importance of the rational component of judgment, have concentrated on the origins of the affective components of moral judgment and action and have shown that the affective element is a large contributor to the rational judgment. The behaviorists, on the other hand, are mainly concerned with the product of judgment and affect, that is, with actual moral behavior.

Each of these three perspectives have chosen one component as the proper area of study. In each individual, however, all three perspectives come together to form the internal moral judgment and the external moral action, (Blasi, 1980). What determines the moral action of the individual is the proper balancing of the cognitive with the affective in his choice of actions. Thus, the cognitive component must not be thought to stand alone or to be more important, but rather, all components of morality must be thought of as being equal, each contributing its share to the moral decision to be made and to the action to be performed. Individual behavior changes as a result of the situation in which he finds himself; thus, even though the judgment may remain the same, the behavior

may change. In a highly emotional situation, behavior will be influenced by the affective elements of the personality and the particular circumstances of the tempting situation. In other circumstances, behavior may be dominated by a purely rational judgment. This distinction has been utilized in the courts of the land distinguishing between crimes of passion and crimes of premeditation. It would seem that a person is influenced in his actions by both kinds of incentive (affective and cognitive) equally but at different times and in different circumstances.

The review of the literature has indicated that most experimentation of moral development has been restricted to one of the three perspectives; it has only been in the past few years that attempts have been made to investigate the whole of the moral process (Leming, 1978).

It is felt that one of the strongest factors influencing moral judgment and moral action is the incentive or motivation prompting the individual to behave morally or immorally. A review of the literature shows that "incentives" have been investigated by measuring either the resistance to temptation or by measuring actual immoral behavior. The bulk of the literature would seem to favor the latter approach because actual behavior is observable whereas resistance to temptation includes both internal and external components.

In the choice of an experimental immoral behavior, it is important that behavior be judged by the subjects to be immoral. In the choice of an experimental immoral behavior, it is important that the behavior be judged by the subjects as being immoral. However, it must not be a behavior that is judged to be so immoral that the gravity of the action would in and of itself prevent transgression; consequently, cheating behavior will be

investigated in this study. A review of the literature on cheating behavior and on its influence by various situational incentives will be elaborated.

Cheating Behavior

Cheating behavior, the dependent variable, has been widely researched among elementary and college students. It was chosen as the dependent variable because of its pervasiveness within the academic situation. For purposes of this research, cheating behavior is defined as the false reporting of scores on the Report of Test Results. Cheating behavior has been similarly defined in previous research (Grinder, 1961; Julius, 1978). Following the research of Schwartz, Feldman, Brown, and Heingartner (1969) and the suggestion of Grinder (1961, 1980), the review of the literature will concern itself not only with the fact of cheating but also with the degree of cheating within each of the task conditions.

Grinder (1964) found that maturity of moral judgment increased significantly for both sexes with age and that for girls, but not for boys, conformity to the rules of the temptation game increased with age, that is, as the girls progressed along the age continuum they engaged in cheating behavior less and less but the boys continued to display cheating behavior regardless of their age. Grinder concluded that, while conscience strength appears to increase with age, the behavioral and cognitive dimensions of conscience develop independently.

This conclusion was supported by Saltzstein, Diamond and Balenky (1972) in their study of moral judgment and conformity behavior. While no interaction was found between level of moral judgment and conformity behavior, a curvilinear relationship was revealed. Those at stage 3 were

found to conform more than those at stages 1 and 2 or 4, 5 or 6. This would seem to confirm Kohlberg's (1969) description of stage 3 as being very much influenced by the opinion of others and the stereotypical images of what is proper behavior.

Contrary to these two studies, Schwartz, Feldman, Brown and Heingartner (1969) found that level of moral judgment was associated with "not cheating" as was level of need achievement. Addressing themselves to the controversy of the non-predictability of behavior from the moral stages, the authors point out that:

...a lack of moral consistency results in part from the mitigation of the effects of morally relevant characteristics by other variables. If this is so, analyses of the cues present in different situations of moral conflict and of the important morally neutral dispositions they are likely to activate should permit one to predict when conduct will or will not be morally consistent. To the extent that cues in one situation release morally neutral dispositions to behavior that happens to be morally approved, while cues in another situation release morally neutral dispositions to behavior not morally approved, we would not expect generality of conduct across these situations. By the same token, it is possible in theory to structure situations of moral conflict such that both the morally relevant and neutral personality characteristics are called into play in a way that promotes consistency of conduct (p. 55).

Based on the above findings, it is suggested that previous studies of moral judgment and cheating may be verified only if differing levels of incentives are introduced into the paradigm together with differing levels of moral judgment.

This suggestion would seem to be supported by Campbell (1933), Hartshorne and May (1928), Howells (1938), Parr (1936) and Hetherington and Feldman (1964), who all place as a major motive for cheating among college students, need achievement. This is true whether or not the subject

possesses a high or low I.Q. The desire to remedy low grades was the single causative factor of cheating among the college students in the Hetherington and Feldman (1964) study.

What is suggested here is that dishonest behavior is predictable from the person's level of moral judgment which, in turn, is loosely tied to his chronological age. When this is paired with the appropriate incentive to cheat, the resultant behavior will be dependent on the relative strength of both factors, i.e., incentive and moral conscience.

The decrease in dishonest behavior at the higher stages of moral judgment has been found by Krebs (1967), Lehrer (1967), Grim, Kohlberg and White (1968) and Turiel and Rothman (1972). In this last study, it was found that subjects at the two most advanced stages of moral judgment (stages 5 & 6) are less likely to cheat than those subjects at the intermediate level (stages 3 & 4), who in turn cheat less than those at the lowest level (stages 1 & 2). It is suggested that these results may be different if an incentive appropriate to each level of moral judgment is added to the paradigm.

Turiel and Rothman's study (1972) indicates that sequential development applies in situations involving a behavioral decision in the same way as it applies to experimental situations in which no behavioral choice is involved.

Cheating, be it on academic type tests (Grinder, 1961; Jacobson, Berger & Millham, 1970; Fakouri, 1972; Knowlton & Hammerlynck, 1967) or for personal enhancement in interpersonal relationships (Jacobson, Berger & Millham, 1970; Fodor, 1972) would seem to be dependent on the moral

maturity of the individual (moral judgment level) and on the situational pressures (incentive).

Schab (1972), in a questionnaire sent to twenty-two high schools, found there to be little difference between college preparatory students and general curriculum students in their outlook and attitudes toward cheating. When asked how many high school pupils cheat, both groups agreed that of those cheating regularly, a fourth of their peers was the most likely proportion. About 20% of both groups believed the proportion of regular cheaters was approximately three-fourths of the student body. Agreement was again evident when both groups chose mathematics as the course in which most cheating occurs. Schab concludes that cheating is a way of life in the secondary school system and that it is sparked by the desire to achieve scholastically. He observes that for many students, cheating is a game between teachers and students. It is the student's job to see how much he can get away with and cheating, for most students, is looked upon as being amoral.

Rettig and Pasamanick (1964) found among university subjects that there is a cognitive variable mediating cheating behavior. Subjects who do not cheat are less cognizant of the low or high risk conditions present because these conditions do not affect their behavior in the normal conduct of their lives. In short, these subjects live by their own internal standards. Subjects who do cheat, live their lives according to their perception of low or high risk of getting caught. In other words, these subjects are constantly weighing the situation and evaluating the risks involved.

The results of the above studies are dependent on the manner of detection and on the statistical methods used to analyze the behavior. The statistical procedure of chi square analysis shall be used to analyze the fact of cheating and the analysis of variance procedure will be used to analyze the degree of cheating, with a multivariate analysis of variance to analyze trial differences. Perhaps by measuring all three, a significant relationship may emerge.

In the studies cited it has been seen that cheating behavior decreases with the advancement along the moral judgment continuum but it is not reported in the literature that a differential incentive was used in relation to various stages of moral judgment. Nor is it reported that there is any significant difference between those who cheat and the degree of their cheating behavior. Grinder (1964, 1980) is, perhaps, the only exception. He reports that as girls progressed along the age continuum, they engaged in cheating behavior less and less but does not report the lessening degree of cheating behavior.

Most studies have used an external or internal incentive to increase the incidence of cheating behavior. A brief review of this literature follows.

Incentive

The use of incentives in psychological research is based on the assumption that the incentive in question will have motivating impetus for the subject. This generally occurs as a result of previous exposure to rewards or reinforcers under favorable conditions, or through observation of them and their effects on others (Bandura, 1969). Used as incentives,

rewards and reinforcers have been widely utilized in psychological research to provide reliable data supporting the view that subject behavior can be altered in response to the incentive (Swingle, Coady, & Moors, 1966; Morris & Coady, 1974; Weiss, 1976; Robertson, 1978; Levine, Gorman, & Sherry, 1978).

The literature often interchanges the terms "reward", "reinforcement" and "incentive" so that their meanings become blurred in interpretation. In an attempt to provide clarity, a reinforcer is any event that increases the likelihood of strengthening the response it follows, while a reward is a more general kind of reinforcer which operates in more varied situations (Logan & Wagner, 1965). Incentives can be viewed as a particular application of rewards or reinforcers; they operate on the social learning theory assumption that the child has prior experience with a specific reinforcing event in a given context so that it comes to be valued by the child and anticipated following a behavior. Incentives, therefore, refer to the anticipation of specific, consequential events which are perceived as being valued and potential reinforcers and thus serve to increase the potential of certain behaviors. Expectancy of reinforcement (Rotter, 1975) refers to a broad, generalized construct which includes the anticipation of rewards of both positive and negative reinforcing value under certain conditions based on prior experience. Rotter (1975), like Witryol (1971), states that it is the expectancy of a reward and not the reward itself that constitutes the incentive.

An incentive, as defined by Witryol (1971), "is a construct which accounts for the anticipation of reward following experiences with the

reward". It is Witryol's definition that shall be followed for purposes of this study; that is, it is the "expectancy" of the promised reward that forms the incentive. As noted from the following review of the literature, it is necessary that the expectancy of the future reward fits the needs and desires of the subject.

From the incentive literature, it can be concluded that man's behavior is largely governed by anticipated events that motivate him toward a desired goal. The literature attempts to investigate the properties which increase or decrease the strength of the incentive. Such variables include the quality and the magnitude of rewards, the preference value of incentive for particular groups of individuals, the relationship of incentives and needs, and the idiosyncracies of needs across individuals.

While it has been generally found that incentives can improve performance, their specific nature, delivery and relationship to personality variables has not yet been clearly established. Witryol (1969, 1971) underscores the complexity in this area by pointing out that research must attempt to understand some of the broad learning experiences leading to the preference for a particular incentive in subject groups and whether it fits the experimental task to which it is applied. In spite of Dmitruk's (1973) criticism that research has tended to focus on specific incentives, usually categorized as material or social in nature, without precise definition of either the incentive or its appeal value to children at differing age levels, some general trends have been reported.

Witryol and Ormsby (1961) presented forty subjects in each of three grades (kindergarten, third and sixth) with a variety of both material and social rewards. They found that with kindergarten children, material rewards were preferred over verbal rewards. With the third and sixth grade children, verbal rewards were preferred over material rewards. The authors

concluded that there is a gradual shift in preference from material to verbal rewards with age.

Witryol, Tyrrell, and Lowden (1965) selected twenty boys and twenty girls from grade one, three and five. Each subject ranked a penny, a charm, bubble gum, "very good boy (girl)" and nothing for reward preference value. There were small but reliable differences between reward value when compared to the "nothing" control condition. With increased age, boys preferred the penny and by the fifth grade both boys and girls showed a preference for social rewards. Witryol's (1971) review of the incentive literature examined reward preferences over a wide range in children. He found that children in early elementary school more frequently chose material kinds of incentives but that preferences for both material and social incentives increased with age.

Not only is there a differential subject preference for various kinds of incentives but the incentives themselves can differentially influence the performance of subjects on learning tasks. For example, Terrell and Kennedy (1957) used a discrimination learning task with groups of children at two age levels (four to five years and eight to nine years). Praise, reproof, candy, a token, or no reward were used as the independent variables, with candy proving to be the most effective incentive for both age groups.

Jeffrey and Skager (1962) wanted to determine if material incentives for correct responses would improve performance on a spatial generalization gradient task. They found that for seven year old males the material incentive of a poker chip, which could be redeemed later for a movie,

improved performance over a control condition. For the ten year old group, the added material incentive did not affect performance over the control condition.

Siegel and Andrews (1962) used small toys, and Stevenson and Hoving (1964) used nickels as material incentives on probability learning tasks. They found higher terminal performances and faster levels of response than under no incentive or low incentive conditions. A study by Benovitz and Busse (1970) found that a material incentive (crayons) applied by the classroom teacher to a group of low socio-economic black, grade four students could increase their spelling performance. Wilson, Witryol and Hust (1975) used grade five students in a study in which various monetary incentives were associated with specific words on a word recall test. The authors found that the words with the highest monetary value were most frequently recalled.

The possibility that material incentives may also contain important social qualities is one that must be addressed. It is generally accepted that material incentives are not given in social isolation and that they may subsequently be used to enhance social recognition or position; however, these social aspects appear to be secondary to the preference for the material incentive itself. A factor exerting an influence may be the egocentricity and concreteness of young children who tend to focus primarily on the immediate reinforcing qualities of any incentive (Strickland, 1973; Phares, 1976; Jones & Evans, 1980). Another factor could be the perceived reward value of a material incentive in children for whom the incentive may be novel or important because of inexperience or a

felt need for it. Additionally, the incentive literature attests to general preferences for either material or social kinds of incentives and both have been found to differentially influence subject behavior on a variety of tasks (Witryol, 1971).

Socio-economic differences were found in a study by Swingle and Coady (1969). Children of six, ten, and fifteen years of age were divided into lower class and middle class groups and offered one of four incentives: money, control, verbal, and verbal plus money. Results indicate that middle class children respond better to verbal incentives. For these children, the control condition was just as motivating as the material condition; lower class children, on the other hand, were more responsive to material incentives.

Class differences with adolescents were noted in Douvan's (1956) research. Senior high school students from the lower social classes revealed a drop in performance when material rewards were eliminated. When material rewards were offered, both middle class and lower class students gave comparable performances.

Monetary as opposed to material rewards have generally been shown to yield detrimental results on the performance of young children but with increasing age monetary incentives gain in importance. In Witryol, Terrell and Lowden's (1965) study, a penny, bubble gum, a plastic cow, a verbalism and no reinforcement were assigned to five stimulus conditions. These were randomly given to 120 boys and girls chosen from grades one, three and five and from upper socio-economic classes. Two other lower class groups were formed from grade one boys and grade five girls. Results from this study

indicate the general superior incentive value of monetary rewards over other reinforcement conditions.

In the study by Swingle, Coady, and Moors (1966), several levels of incentives including self-competition, class norms, social competition, social competition for monetary reward and monetary reward were compared for their effectiveness in stimulating freshman psychology students on a lever-pressing task. It was noted that social competition was as motivating as monetary rewards. Although self-competition rated highest in incentive value, the authors suggest that for those people who are not naturally self-competitive, social or monetary rewards may become a very important source of motivation.

In summarizing the review of the incentive literature, it would seem that the inherent quality of the incentive appeals differentially to children. Material rewards in the form of edibles, toys and tokens have been shown to be superior in stimulating children to increase their performance on various tasks; however, as children grow older, their preference for a given incentive would seem to progress from a material incentive to a social incentive to a monetary incentive and, finally, to an abstract form of self-approval or approval of some significant other.

Miller and Estes (1961) with nine year old subjects, Jeffrey and Skager (1962) with seven and ten year old children, as well as Estes, Miller and Curtin (1962) with college students, show evidence supporting differential age trends. As revealed by these students, the motivating value of material tangible rewards appeals to younger children. As age increases, children tend to assume a more internalized frame of reference

and they can be motivated by the nature of the task itself. By the same token, they become more responsive to the symbolic character of incentives and are more incited to action by the mere thought of being correct rather than by a wish to be praised.

Non-Specific Incentives

In addition to specific types of incentives within the general categories of material or social, the effects of non-specific or ambiguous incentives have also been examined. These include the anticipation of broader social (peer recognition, pressure, competition) or material (prizes) reinforcers, and have been found to differentially influence performance. More recently, this has introduced an exploration of the complex interaction between personality variables and incentives on various performance tasks.

Witryol and Alonzo (1962) had pre-school children rank the reward value of bubble gum, a balloon, a charm, a marble and a paper clip. In addition, they attempted to influence the scaling by later telling the subjects that the paper clip was preferred by one of their friends prior to a second presentation. The rank order of the paper clip rose from last place during the first presentation to first place during the second presentation indicating that peer pressure can influence reward choice.

Swingle, Coady and Moors (1966) compared the effectiveness of five incentive conditions with performance feedback in maintaining the lever-pressing behavior of college males. They found that some subjects were highly responsive to self-competition, while for others,

self-competition was less motivating than monetary or social incentives. The authors concluded that incentive value may be based on some other cognitive mediating variable such as need for social approval or need for achievement.

In another study, Morris and Coady (1974) administered a two-choice probability learning task to one hundred and eighty children who had been divided into high and low need for social approval groups. Non-specific social ("Most of your friends do very well in this game and you will be liked and praised if you do well") and material incentive conditions ("If you do well you have a chance to win a very good prize after the game is over"), in addition to control (no incentive) conditions were used. Subjects with a high need for social approval scored higher under all incentive conditions but particularly under social incentive conditions; moreover, this group tended to use strategies which maximized their number of correct responses more frequently than the low need for social approval group. The authors concluded that social reinforcement has a high value for the high need for social approval group and related this to a reinforcement history in which social kinds of reinforcement have predominated and are, therefore, expected and valued. They also suggested that this expectancy can be altered through the use of incentives.

Coady and Brown (1978) divided one hundred and twenty children ranging in age from eight to ten years of age into high and low need for social approval groups using the Children's Social Desirability Questionnaire. They were then administered a digit cancelling task under three non-specific incentive conditions: normative ("most children your age do

well on this task"), competitive ("you have a chance to win a prize") and control (no incentive). The authors found that high need for social approval subjects responded better under normative incentive conditions in which they perceived that their performance would be compared to group norms. The more independent, low need for social approval group responded better to the competitive incentive.

It would seem from these studies that a continuum of incentives does exist and that as the individual grows along the chronological age continuum, the incentives that will be most effective in producing a given behavior may become less and less specific and will progress from a material reward, to social approval to self-reinforcement.

This conclusion would seem to be supported by Rotter (1962) who has shown that as a person comes to view his reinforcements as being internally controlled, he is motivated by internal values and that as he views his reinforcements as being externally controlled he is motivated by external values. Phares (1973) has shown that generally speaking an individual progresses from an external orientation to an internal orientation with advancing age. This may be correlated with Kohlberg's (1969) conclusions that an individual progresses from an external morality to an internal morality and with Freud's exposition of the internalization process.

In an attempt to make this connection, Brisset (1976) conducted an experiment in which he sought to find some connections between stage of moral judgment, need for social approval and volunteering behavior. While he found no significant relationship between stages of moral judgment and volunteering behavior, a significant relationship was found between a

monetary incentive and volunteering behavior. It would appear from this study that a monetary reward increases in strength as moral judgment reaches the higher levels but it should be noted that volunteering behavior may not be indicative of the suspected correlation between kind of incentive offered and stages of moral development. Perhaps the subjects felt that they should be paid for their services and thus the resultant relationship between a monetary incentive and volunteering behavior.

McGraw (1976) found that a monetary reward is an efficient incentive only if it is commensurate with the task demanded. If the subject feels that the reward is not enough or too much for the amount of his effort, the promised reward will not act as an incentive and may even act as an inhibitor of performance.

Incentives, in dealing with human subjects, can be a very tenuous variable. Based on the literature, it seems that as a person advances in age, effective incentives will progress from material to non-material and that as monetary rewards are offered, there is the danger of offering too much or too little to produce the desired behavior. For this reason indeterminate incentives will be employed after the manner of Morris and Coady (1974). The studies of Coady and his associates have shown that older subjects can be influenced by a short sentence arousing a sense of competition with self or others or containing a non-specific promise of a prize.

Conclusion

The cognitive-developmental research indicates that individuals progress from an external to an internal moral orientation (Kohlberg, 1969). It has also indicated that this progression follows certain invariable sequential stages (Kohlberg, 1958, 1963, 1969; Turiel, 1969; Rest, 1973; Kuhn, 1976). Thus, it would seem that in young children, the moral orientation is one of fear of the consequences and fear of external authority. In older children, however, moral orientation is based on equity and reciprocity (Rest, 1973). As individuals reach the higher stages of moral judgment, their orientation becomes almost totally internal and is based on universal and personal moral values (Kohlberg, 1969; Turiel, 1969; Rest, 1973; Phares, 1973). On a parallel plane, the incentive literature indicates a similar progression from external to internal incentives needed to motivate behavior (Witryol, Tyrell, & Lowden, 1965; Terrell, Durkin & Wesley, 1959; Mills, 1958; Hill & Kochendorfer, 1966; Swingle & Coady, 1969; Coady, 1979). Young subjects seem to be motivated more by material rewards than by internal incentives; older subjects seem to be motivated more by immaterial incentives such as verbal praise, knowledge of their own success or need achievement.

The cheating literature indicates that those at the lower stages of moral judgment will cheat more than those at the higher stages (Grinder, 1964; Schwartz, Feldman, Brown & Heingartner, 1969; Krebs, 1967; Grim, Kohlberg & White, 1968; Turiel & Rothman, 1972; Blasi, 1980). In combination with the incentive literature, it would seem that lower moral reasoners will cheat more when confronted with a material incentive and that higher moral reasoners will cheat more when confronted with an

internal incentive. Thus by combining stage of moral judgment, incentive and cheating behavior it should be possible to demonstrate an interdependent relationship.

CHAPTER 2

METHOD

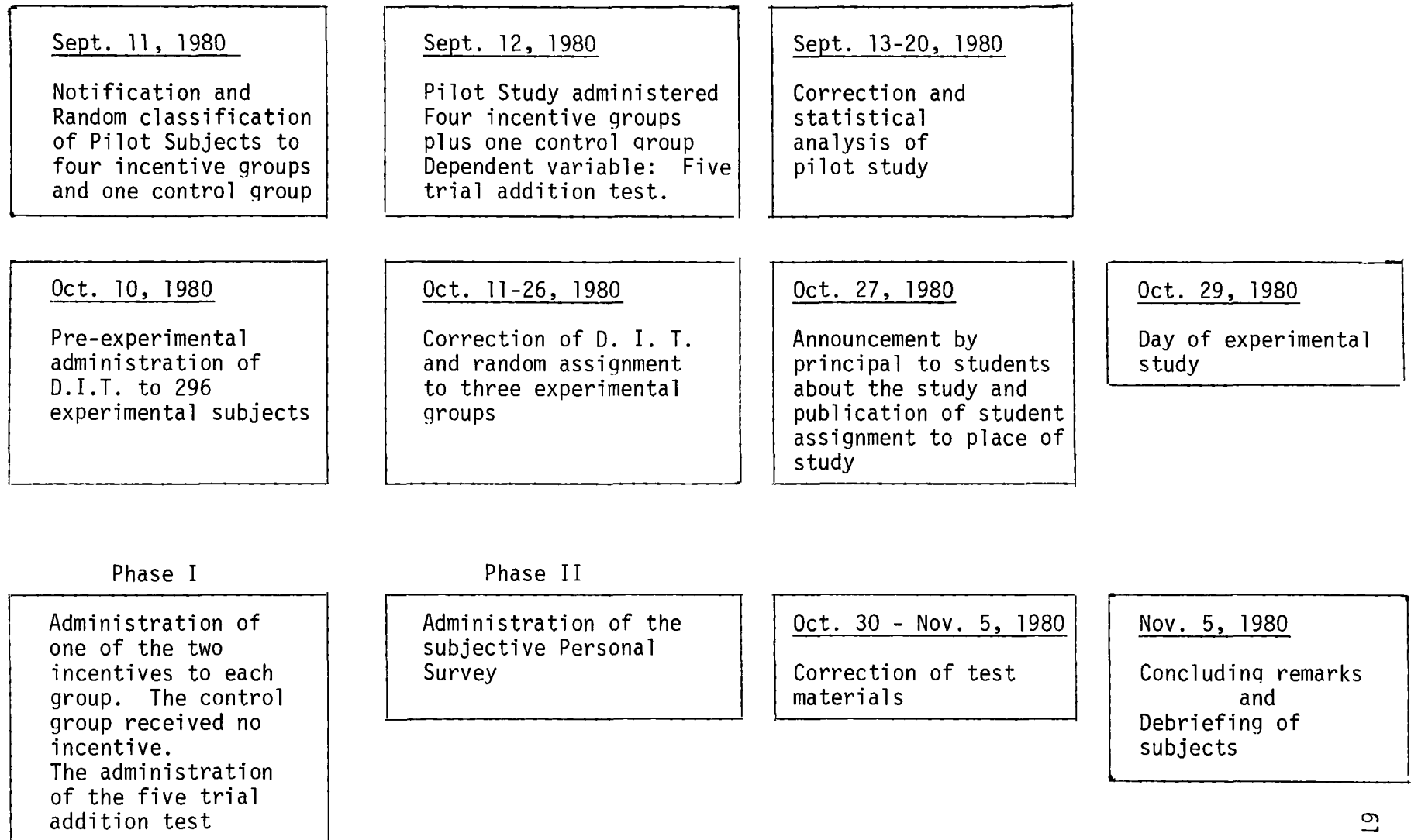
This chapter will describe the sample, the nature of the testing instruments, the experimental pre-testing, the classification of subjects, and finally, the methodology of the research procedure. The chapter will end with the statement of the specific hypotheses of this research. In order to guide the reader through the experimental process, a flow chart of procedure has been added (Figure 1).

Subjects

Four hundred and forty male students of Fenwick High School ranging in age from fifteen years to seventeen years and eleven months comprised the subject pool for the pilot and experimental sessions; one hundred and forty-three subjects took part in the pilot study with the remaining 296 taking part in the experimental testing sessions. Ninety-eight percent were of the Catholic religion with the remaining two percent belonging to the Anglican, Greek Orthodox or Baptist religion. All subjects were of high intellectual ability (the average IQ score (Otis) was 120 with the low end of the range being 109). Socio-economically, they were from lower

Figure 1

Flow Chart Describing Research Procedure
(1980)



middle class to upper class families; racially, the subject pool was comprised of 96% Caucasian, 2.5% Black and 1.5% Oriental.

Fenwick High School is located in Oak Park, Illinois, a suburb fifteen miles from the downtown area of Chicago. The school is a selective, private, parochial institution with a total enrollment of one thousand boys. The school is run by the Dominican Fathers and is supported by tuition fees and private contributions. The student body is composed of young men from the inner city to the far western, northern and southern suburbs. This total area comprises a geographical distance of approximately fifty miles. Public transportation is widely used together with private busses provided by the school and some parishes. The school is staffed by twenty-five Dominican priests and forty-five lay men and women.

Incentives

Incentives, as seen in the review of the literature, can be understood in many contexts. Witryol's definition of "expectancy" has been chosen for the purposes of this thesis. It was the original intention to investigate the subject's moral progression along the moral judgment continuum in response to various incentives. It has been shown (Kohlberg, 1969; Turiel, 1966) that as a person develops morally, he progresses from an external moral orientation to an internal moral orientation; thus, incentives were constructed to appeal to this internal-external orientation. It was hoped that one incentive (external)

would appeal to those subjects at the lower stages of moral judgment whose moral orientation is external. The expectancy involved in this incentive was the chance to win a valuable cash prize. The other incentive (internal) was designed to appeal to those subjects at the higher end of the moral judgment continuum whose moral orientation is one of internal self-motivated values. The expectancy here was one of personal, internal praise; that is, for the possibility of heightening one's own self-image. Because of these various appeals and because of moral orientations of the subjects were tested, the incentives constructed for the purposes of this thesis were termed internal and external incentives.

A pilot study (Appendix 2) was conducted early in the 1980-81 school year in order to establish the effectiveness of four incentives: two internal and two external. The subject pool for this pilot study numbered 143 subjects divided into five groups. Three of the four incentives pre-tested revealed a significant difference when compared against the control group. The pre-tested four incentives were then reduced to one internal incentive and one external incentive, both of which displayed a significant difference when compared to the control group (Appendix 2).

The two incentives chosen for the experimental session read as follows:

Internal Incentive:

"I am not authorized to answer any questions although I am sure you are wondering what this is all about. All of your questions will be answered after all of the testing sessions have been completed. In this part of the testing, you will be asked to complete several tests of addition. Because this test demands concentration, speed of recall and physical and mental coordination, it has been found to be a very good indicator of future academic success in most subject

areas. Furthermore, it has been found to be related to personal characteristics such as endurance, involvement, persistence and dedication. Please work on the problems as presented, that is, do them in the order presented. Begin at the upper left hand corner and work across the top row. then begin on the left side of the second row and so on."

External Incentive:

"I am not authorized to answer any questions although I am sure you are wondering what this is all about. All of your questions will be answered after all of the testing sessions have been completed. In this part of the testing you will be asked to complete several tests of addition. Those people who attain a high score on the problems will have their names put into a pool from which several names will be chosen and awarded a very considerable individual cash prize when the study has been completed and the results tabulated. Please work on the problems as presented, that is, do them in the order presented. Begin at the upper left hand corner and work across the top row. then begin on the left side of the second row and so on."

The control group received only the instructions for the addition tests:

Control Group:

"I am not authorized to answer any questions although I am sure you are wondering what this is all about. All of your questions will be answered after all of the testing sessions have been completed. In this part of the testing you will be asked to complete several tests of addition. Please work on the problems as presented, that is, do them in the order presented. Begin at the upper left hand corner and work across the top row. then begin on the left side of the second row and so on."

Addition Test

The Addition Test (Appendix 4) consisted of five trials of fifteen problems each, with each problem containing five, three digit numbers.

These numbers were generated from a table of random numbers (Haber, 1977) and were arranged in three rows of four problems and one row of three problems. Each problem was numbered from left to right with four spaces between the number and the problem itself. Subjects were instructed to work on the problems in the order given. The time limits for each of the five trials were determined after pre-testing the mathematics faculty and the top grade 12 students at the test school. It was found that Trial #1 could be finished in six minutes with no time left to recheck the problems. It was further found that Trials 2-3-4-5 could not be finished in four minutes. Thus, six minutes was established as the time limit for the first Trial and four minutes for Trials 2-3-4-5. This would permit the better students to complete the first trial and to relay a sense of accomplishment and to establish some validity for Trials 2-3-4-5. Subjects were not told the amount of time allowed for each trial.

The addition test as a means of determining the fact and amount of cheating behavior follows the research of Julius (1978) and Sawyer (1978). Julius used an addition test of 80, four and five digit numbers typed eight to a row together with a time limit for each test. Sawyer used the method of incorrect answers to judge the degree of dishonesty displayed by his subjects. Both time limits and incorrect answers were used in the present study. The use of addition tests has been used in research investigating need achievement and achievement performance in college samples (Lowell, 1962; Holmes & Tyler, 1968; Kabayashi, 1976). A test of addition was considered to be reasonably neutral, a task which would not upset or in any way arouse a strong, negative emotional set in the

subject, that is, arithmetical computation was considered to be a task on which all subjects would have sufficient experience and would perform to their peak ability.

Addition Answer Sheet

The Addition Answer Sheet (Appendix 4) provided spaces for the computed answers to each of the five trials. This answer sheet was filled out after each of the trials and the addition work sheet was then collected and disposed of in the waste basket. After all five trials had been completed each subject had only this answer sheet with all of his computed answers for each of the five trials.

Report of Test Results

The Report of Test Results (Appendix 4) was distributed after Trial #5 had been completed. This report asked two questions in regard to each of the five trials:

- (1) Number of problems completed _____
- (2) Number of problems completed correctly _____

Correction of Addition Tests

Each of the five addition tests contained 15 addition problems. Seven (7) incorrect answers were given within each trial. From the Report of Test Results (Appendix 4), it was possible to ascertain not only the fact of cheating but the degree to which cheating had occurred within each of the five trials. If the subject answered "15" to both questions

on Trial #1, it was known that he cheated and to the extent of at least 7 times because while it was possible to finish the test within the six minute time limit, it is highly unlikely that he could have made the precise errors to come up with the 7 incorrect answers given within Trial #1. In the case of Trials 2-3-4-5, if the subject answered "15" to both questions, it was known from his first answer that he cheated, because Trials 2-3-4-5 were impossible to complete within the 4 minute time limit, consequently, such a subject was judged to have cheated 7 times. If, however, a subject answered less than "15" to the first question, it was still possible to ascertain the fact of cheating and the degree of cheating by counting the number of incorrect answers that had been given within the number reported completed by the subject (subjects had been directed to do the problems in the order given) and subtracting this number from the number completed minus the number of incorrect answers. his continuous cheating score would then be the number he reported as "answered correctly" minus the absolute number of correct answers given. In brief, his continuous cheating score would be the number of possible correct answers within his reported completion rate subtracted from his reported "correctly answered" rate.

Personal Survey

An anonymous, posttest, Personal Survey (Appendix 5) was constructed consisting of 14, four point scales ranging from totally negative (scored 1) to totally positive (scored 4). The fifteenth question was an open-ended question allowing the subjects to make any comments concerning the

two testing sessions. The fourteen questions dealt with personal involvement in the study and were used to ascertain whether the cover story (incentives) used for the addition tests were discovered by the participants and also to judge the subjective effectiveness of the incentives.

PROCEDURE

Experimental Pre-Testing

The experimental subject pool (N = 296) was administered Rest's Defining Issues Test of Moral Judgment (Appendix 3). The entire subject pool was assembled in the school auditorium which has a seating capacity of 1300. The subjects were seated on the main floor only with four seats left empty between each subject. Instructions for the D.I.T. were given from a central microphone by a non-threatening school counselor. Added teaching faculty were present to facilitate the distribution of test materials quickly but were not used as proctors for the test itself.

All subjects were asked to print the requested biographical information on the cover sheet and to await further instructions. Once everyone had received a copy of the test form and the necessary identification information had been supplied, the subjects were asked to turn to page #1 of the test form. This page gives a simple explanation of the purpose of the test with a sample story. This sample page was read aloud from the microphone and the subjects followed the explanation on

their own test forms. All questions pertaining to the mechanics of the test were answered. When it was felt that the subjects understood the task before them, they were instructed to begin the test by turning to page #2 and to continue until finished.

The test was completed by all participants within sixty minutes. The test forms were then collected by the faculty helpers and delivered to the test administrator. The subjects were told that after these tests had been evaluated they would be asked to participate in the second stage of this study. The students were then dismissed from the auditorium to resume their academic schedule at 11:15 A.M.

Rest (1974) advocated reliance on the Principled Reasoning Score (P-Score) rather than stage scoring as a more reliable index of moral judgment since he had obtained higher correlations of the D.I.T. with other tests using the former measure. However, significant relationships were also obtained using the D.I.T. stage scores (Rest, 1976) and instructions for scoring the D.I.T. include the necessary information for deriving standard scores for a subject's functional use of each stage (Rest, 1974). Since it was the major aim of the present study to compare the influence of two incentives on three of the stages, stage scores were employed rather than the overall P-scores.

All test protocols were corrected across the eight scoring categories (Appendix 6). From these results, the individual stage scores were computed. Rest's (1974) system of stage analysis was employed (Appendix 7). Each item following each story was evaluated according to the table on page 2-1 of the manual (Appendix 7). After all twelve items of each

story had been scored, the scores appearing under each stage were summed. That stage receiving the highest score was designated as the subject's predominant stage of moral judgment (Rest, 1974). By predominant stage, Rest means that stage used most often by the subject.

Kohlberg (1969) and Rest (1974, 1976) have found that the subject's moral judgments may vary across several stages depending on the complexity of the situation but that one stage will predominate. All subjects, as expected, ranked in stages 3-4-5 predominantly, with the majority being classified as stage 4 subjects. The distribution of subjects across predominant stages appears in Figure 2.

In the five cases where individual high scores were duplicated in another stage, the higher stage was assigned as the subject's predominant stage following Kohlberg's (1969) assumption that such cases exemplify the gradual transition from one stage to another.

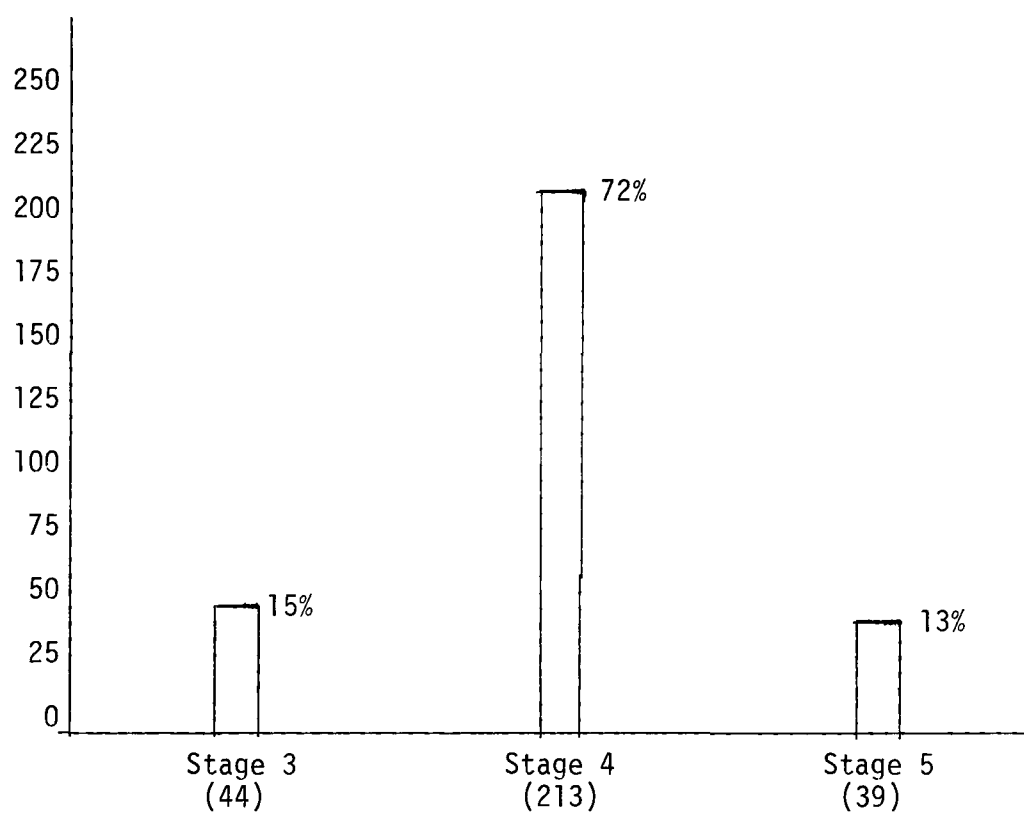
Experimental Testing Session

Three weeks after the administration of the D.I.T. and based on the results of the D.I.T., three groups were randomly formed with relatively equal numbers of stage 3-4-5 in each group. Group #1 was designated as the control group and received only simple instructions before the administration of the Addition Test. Group #2 was designated as the Internal Incentive Group with Group #3 constituting the External Incentive Group. The three groups met simultaneously in a large lecture hall, the auditorium and cafeteria respectively. The combined N for the experimental session was 296 subjects.

Figure 2

Frequency Distribution
of
Predominant Stages of Moral Judgment

N = 296



The administration of each of the two incentives was given verbally to Groups #2 and 3, whereas Group #1 (control) received only the instructions in regard to the Addition Test. These incentives and/or instructions were given in a serious tone of voice, clearly and succinctly. Each incentive was given before the first of the five trials only.

After the incentive (instructions) had been given to each of the three groups, the first of the Addition Tests was distributed face down. After the completion of trial #1, an Addition Answer Sheet (Appendix 4) was distributed. Subjects were asked to copy only the answers they had computed in the spaces provided on the answer sheet. Test #1 was then collected and deposited in a waste basket in full view of the subjects. This was done in order to convey the possibility of cheating on later trials. Test #2 was then distributed with the impossible time limit of 4 minutes. At the end of four minutes, subjects were asked to copy their computed answers on the Test Answer Sheet in the spaces provided under Test #2. Test #2 was then collected and deposited in the waste basket. This same procedure was followed for Tests 3-4-5. After Test #5 was collected and deposited in the waste basket, the only thing the subjects had in front of them was the Test Answer Sheet on which were their answers for each of the five trials. Finally, The Report of Test Results (Appendix 4) was distributed on which the subjects were asked to print their names, age and academic class. They were then told that the answers for Test #1 would be read to them and they were to correct their own Test Answer Sheet. The three administrators had been instructed to read each answer only once and to read them clearly and succinctly. The answers were

read slowly, each digit being read at the rate of one digit per second. The administrators had been asked previously not to add the problems beforehand but simply to read the answers provided for them. This was done to avoid nervousness on the part of the administrator if he knew which of the answers were incorrect. After the reading of each set of answers, the subjects were asked to answer the two questions appearing on the Report of Test Results for each of the five trials. After the reading of the answers to Trial #5, the Test Answer Sheet was collected and deposited in the waste basket. This allowed subjects to further falsify the Report of Test Results. The procedure was carried out in such a manner as to convey the impossibility of accusing anyone of cheating. The Report of Test Results was finally collected and given to the test administrator.

Finally, the Personal Survey was distributed and completed by all of the subjects. This has provided the examiner with subjective data (Appendix 8).

Debriefing Session

Several weeks after the experimental testing, all participants were assembled in the school auditorium for the purpose of revealing to them the true nature of this study. A brief outline of the connection of moral judgment and behavior was made by the author of the study. It was explained to all subjects that this being a study of human behavior in a tempting situation a certain degree of deception was necessary and that some of the addition answers read by the test administrators were false

answers. This met with a certain degree of moaning and feelings of "I've been had". There were no perceived feelings of having been lied to; only feelings of embarrassment at having been duped.

The "considerable cash prizes" promised in the external incentive were then awarded. These consisted of eight prizes of twenty-five dollars each. Care had been taken beforehand not to award a prize to anyone who had cheated for fear of rewarding someone who had acted immorally. Only those who did not cheat were eligible for the prizes, although this was not revealed to the subject.

Research Design

It is intended to test cheating behavior on the three levels of: (1) fact of cheating, (2) degree of cheating and (3) differences in cheating across the five trials. It is hypothesized that differences will appear not only in regard to the two incentives but also in regard to the three stages of moral judgment. This will be attempted through the following design:

N = 296

	CONTROL	INTERNAL INCENTIVE	EXTERNAL INCENTIVE	
Stage 3	17	14	13	44
Stage 4	71	72	72	215
Stage 5	9	12	16	37
	97	98	101	296

Theoretical Assumptions and Hypotheses

Based on the literature, it would seem that moral judgment is closely allied to cognitive maturity and that as one progresses along this continuum, he also progresses along the moral judgment continuum (Kohlberg, 1969). This moral judgment continuum has been seen to be sequential in nature (Kohlberg, 1958, 1963, 1969; Turiel, 1969; Rest, 1973, Blasi, 1980). This natural progression has been shown to begin with an external fear of the punishment due to one's actions (Stage 2 and 3) and progresses to a morality of internal standards (Stage 5 and 6).

The incentive literature reveals a similar progression. Children, from the years of infancy through the pre-teen years are motivated by external, material incentives (Witryol, Tyrell & Lowden, 1965) while adolescents and adults are motivated by immaterial, internal incentives such as ideas of self-worth, knowledge of one's own success or need achievement. The incentive literature also indicates that younger children will cheat more than older children when presented with the possibility of receiving a material reward but that older children will cheat more if confronted with the possibility of a loss of self-esteem or peer acceptance. The question, however, arises as to whether this distinction holds across stages of moral judgment as it does across chronological age. In other words, are those at stage 3 of moral judgment more affected by an external, material incentives than are those at stage 5 and are those at stage 5 more affected by internal concerns of

self-worth than are those at stage 3. It has been shown that when incentives are treated alone, this progression has been coordinated with chronological age but what will be the result if we substitute stage of moral judgment for chronological age using cheating behavior as the dependent variable?

These questions and assumptions may be verbalized in three hypotheses:

1. If subjects are exposed to either the internal incentive or the external incentives then they will display more cheating behavior than those exposed to no incentive.
2. If stage 5 subjects are exposed to the internal incentive, then cheating behavior will be higher than those stage 5 subjects exposed to the external incentive.
3. If stage 3 subjects are exposed to the external incentive, then cheating behavior will be higher than those stage 3 subjects exposed to the internal incentive.

CHAPTER 3

PRESENTATION OF RESULTS

This chapter will present the results of the present research in two sections. The first section will present the statistical validation of the two incentives used in the experimental testing sessions. The second section will present the statistical analyses of the experimental hypotheses; furthermore, this section will be divided to deal with the analyses of the fact of cheating, the degree of cheating and the differences in cheating behavior over the five trials. A summary of the 1978 study appears in Appendix 1 with a full report of the pilot study for the present research appearing in Appendix 2.

Experimental Analyses

Incentive Analysis

In order to test the continual effectiveness of the two incentives used in the experimental session a 3x2 chi square (Table 1) was conducted analyzing cheating behavior across the two incentive conditions as compared to the control group. A chi square value of 9.04570 ($df = 2$; $p < .05$) indicates that there is a significant difference between the two incentive conditions and the control group. Further individual comparisons with the control group indicates that this difference occurs between the control group and the internal incentive (Table 2) (chi square

Table 1
Chi square of dichotomous cheating score and three incentive conditions
(N = 298)

Count Row Pct Col Pct Tot Pct	No Cheating	Cheating	
Control Incentive	65 67.0 39.9 21.8	32 33.0 23.7 10.7	97 32.6
Internal Incentive	47 47.0 28.8 15.8	53 53.0 39.3 17.8	100 33.6
External Incentive	51 50.5 31.3 17.1	50 49.5 37.0 16.8	101 33.9
	163 54.7	135 45.3	298 100.0
Chi Square = 9.04570			
df = 2			
p < .05			
Cramer's V = .17423			

Table 2

Chi square of dichotomous cheating score and control and internal incentive condition (N = 197)

Count			
Row Pct			
Col Pct	No	Cheating	
Tot Pct	Cheating		
Control	65	32	97
Incentive	67.0	33.0	49.2
	58.0	37.6	
	33.0	16.2	
Internal	47	53	100
Incentive	47.0	53.0	50.8
	42.0	62.4	
	23.9	26.9	
	112	85	197
	56.9	43.1	100.0

Chi Square = 7.24222

df = 1

p < .01

Phi Coefficient = .20199

Table 3

Chi square of dichotomous cheating score and control and external incentive condition (N = 198)

Count			
Row Pct			
Col Pct	No	Cheating	
Tot Pct	Cheating		
Control	65	32	97
Incentive	67.0	33.0	49.0
	56.0	39.0	
	32.8	16.2	
External	51	50	101
Incentive	50.5	49.5	51.0
	44.0	61.0	
	25.8	25.3	
	116	82	198
	58.6	41.4	100.0

Chi Square = 4.90247

df = 1

p < .05

Phi Coefficient = .16530

= 7.24222; df = 1; $p < .01$) and between the control group and the external incentive (Table 3) (chi square = 4.90247; df = 1; $p < .05$).

From these analyses, it was concluded that the same effectiveness found between the four incentives used in the pilot study (Appendix 2) and the two incentives used in the experimental study were similar in both studies. The two incentives used in the experimental study were effective in producing cheating behavior significantly different from the control group used in the experimental testing session as were the four incentives used in the pilot study (Appendix 2).

The significant differences found between the control group, both in the pilot study and in the experimental testing session, would seem to indicate that the two experimental incentives did, in fact, appeal to the various value system of the subject group. This, as has been pointed out by Witryol (1969) is essential if any reward is to have incentive value for the subject population. In the present study significant chi squares ($p < .05$) were found in regard to both the internal and external incentives. This would indicate that the appropriate value systems were being affected and that the pressures to cheat were increased. The significance of the incentive effect gave strength to the hypotheses of this thesis.

It should be noted, however, that the significance of the chi squares is lessened somewhat by the low phi and Crammer's V coefficients. These coefficients indicate the relationship existing between the two variables and the probability of either variable falling in each cell. In the present study there are very low relationships shown statistically

considering the significant chi square values. This would seem to indicate that there are other intervening variables that were not tested for. It may be these intervening variables that have caused the significant findings.

In order to test the major theoretical hypotheses, subjects were divided among the incentive conditions according to their predominant stage of moral judgment as ascertained through the Defining Issues Test (D.I.T.). A frequency distribution of the three incentive conditions across the three stages of moral judgment appears in Table 4.

Fact of Cheating

A 3x6 composite chi square table was constructed (Table 5) to test the major hypotheses that stage 3 subjects will cheat more when exposed to an external incentive and stage 5 subjects will cheat more when exposed to an internal incentive and that stage 4 subjects will display cheating behavior equally across all incentive conditions. This analysis failed to show any significant differences across the three stages of moral judgement ($p > .05$). This would seem to indicate that the three stages of moral judgment responded equally to both incentive conditions with there being no significant difference between stages of moral judgment, the two incentive conditions and the control group. A separate 3x2 chi square analysis of the internal incentive condition (Table 6) indicates no significant differences in cheating behavior between the three stages of moral judgment ($p > .05$). A similar analysis of the external incentive

Table 4
Frequency distribution of stages of moral judgment and three incentive condition (N = 296)

	Control Incentive	Internal Incentive	External Incentive	Total
Stage 3	17	14	13	44
Stage 4	71	72	72	215
Stage 5	9	12	16	37
Total	97	98	101	296

Table 5
Composite chi square of dichotomous cheating score by stages of moral judgment and incentive conditions (N = 296)

Count							
Row Pct							
Col Pct	No	No	No	Cheating	Cheating	Cheating	
Tot Pct	Cheating	Cheating	Cheating				
	Control	Internal	External	Control	Internal	External	
	Incentive	Incentive	Incentive	Incentive	Incentive	Incentive	
Stage 3	13	7	8	4	7	5	44
	29.5	15.9	18.2	9.1	15.9	11.4	14.9
	20.0	15.2	15.7	12.5	13.5		
	4.4	2.4	2.7	1.4	2.4	1.7	
Stage 4	46	36	36	25	36	36	215
	21.4	16.7	16.7	11.6	16.7	16.7	72.6
	70.8	78.3	70.6	78.1	69.2	72.0	
	15.5	12.2	12.2	8.4	12.2	12.2	
Stage 5	6	3	7	3	9	9	37
	16.2	8.1	18.9	8.1	24.3	24.3	12.5
	9.2	6.5	13.7	9.4	17.3	18.0	
	2.0	1.0	2.4	1.0	3.0	3.0	
	65	46	51	32	52	50	296
	22.0	15.5	17.2	10.8	17.6	16.9	100.0

Chi Square = 6.99874

df = 10

p > .05

Cramer's V = .10873

Table 6
Chi square of internal incentive condition and dichotomous cheating score
by stages of moral judgment (N = 98)

Count Row Pct Col Pct Tot Pct	No Cheating	Cheating	
Stage 3	7 50.0 15.2 7.1	7 50.0 13.5 7.1	14 14.3
Stage 4	36 50.0 78.3 36.7	36 50.0 69.2 36.7	72 73.5
Stage 5	3 25.0 6.5 3.1	9 75.0 17.3 9.2	12 12.2
	46 46.9	52 53.1	98 100.0
Chi Square = 2.64256 df = 2 p > .05			
Phi Coefficient = .16421			

condition ($p > .05$) also indicates no significant differences in cheating behavior between the stages of moral judgment (Table 7).

From these analyses and the failure to find significant differences, it was concluded that while the incentives were effective in producing cheating behavior, the stages of moral judgment were ineffective in discriminating this effectiveness.

Degree of Cheating

As stated in chapter 2, the Addition Test was composed of five trials with each trial consisting of 15 addition problems. There were 7 incorrect answers given within each trial allowing for a total of 35 possibilities of cheating. An analysis of variance (Table 8) was conducted to ascertain if, perhaps, differences in the total instances of cheating would be revealed between incentive conditions and stages of moral judgment. No differences were found ($p > .05$) indicating that the frequency of cheating instances remained constant across the three stages of moral judgment and the three incentive conditions.

A power analysis (Winer, 1971; Keith, 1972) was calculated on the F ratio of the two independent variables and on their interaction. The three resulting power coefficients ranged from .10-.15 indicating that if an experimental effect was present, it would be detected 10-15% of the time. A further analysis was made on the power ratio (Cohen, 1969) indicating that a total N of 500 subjects would be necessary to find significance for the interaction but such a sizeable N was not available.

Table 7

Chi square of external incentive condition and dichotomous cheating score by stages of moral judgment (N = 101)

Count			
Row Pct			
Col Pct	No	Cheating	
Tot Pct	Cheating		
Stage 3	8	5	13
	61.5	38.5	12.9
	15.7	10.0	
	7.9	5.0	
Stage 4	36	36	72
	50.0	50.0	71.3
	70.6	72.0	
	35.6	35.6	
Stage 5	7	9	16
	43.8	56.3	15.8
	13.7	18.0	
	6.9	8.9	
	51	50	101
	50.5	49.5	100.0

Chi Square = 0.93250

df = 2

p > .05

Cramer's V = .09609

Table 8
 Analysis of variance of continuous cheating score and three incentive conditions and stages of moral judgment (N = 296)

Source of Variation	SS	df	MS	F	p
Main Effects	45.075	4	11.269	1.051	0.381
Incentive	15.531	2	7.765	0.724	0.486
Predominant Stage	26.877	2	13.438	1.253	0.287
Two-Way Interactions					
Incentive Predominant Stage	54.808	4	13.702	1.278	0.279
Within Cell Error	3077.601	287	10.723		

Trial Analysis

The analysis of possible differences across the five trials was conducted using a multivariate analysis of variance (Table 9) with the five trials as dependent variables and the three stages of moral judgment and the three incentive conditions as the independent variables. This analysis proved to be non-significant ($p > .05$) indicating that all incentive groups and all stages of moral judgment cheated or did not cheat to the same extent trial to trial. It might be noted here that on Trial 1 there was very little cheating. After seeing the test materials being deposited in the waste basket, Trial 2 produced almost double the amount of cheating. Trial 3 showed a reduced rate of cheating. This can be attributed to the subjects fear of getting caught and to a certain amount of guilt feelings but on Trials 4 and 5 it was as if they threw caution to the wind and they displayed free cheating behavior on Trials 4 and 5: however, none of these observations reaches statistical significance.

However, because of the observed tendencies revealed in Table 9, it was decided to conduct a similar analysis after grouping Trial 1 and Trial 2 to form Group 1 and to group Trials 3-4-5 to form Group 2. The averages of Group 1 and 2 were then calculated and a multivariate analysis of variance was conducted on Group 1 and 2 over the independent variables of predominant stage and incentives was conducted. The results (Table 10) indicate that the suspected difference between Trials 1 and 2 and Trials 3-4-5 do not exist to any significant degree.

As a final analysis, it was decided to conduct three chi squares to ascertain whether there were any differences between cheaters and non-cheaters across the two independent variables independent of one

Table 9
 Multivariate analysis of variance of continuous cheating score and trials
 1-5 with two factors of incentive and stage of moral judgment (N = 296)

Dependent Variables	MS	Univariate F	p
Trial 1	.35672	.58265	.675
Trial 2	.67022	1.17605	.321
Trial 3	.16159	.23700	.971
Trial 4	.88577	1.97223	.099
Trial 5	1.34908	1.27892	.278
Multivariate F = .53775 (Wilks) Degrees of Freedom = 20/939			.951

Table 10
 Multivariate analysis of variance of continuous cheating score and grouped trials (trials 1 and 2 equals group 1 and trials 3-4-5 equals group 2) with two independent variables of incentive conditions and stages of moral judgment (N = 296)

Dependent Variables	MS	Univariate F	p
Group 1 (Trials 1 & 2)	.49191	1.07985	0.367
Group 2 (Trials 3-4-5)	.68235	1.30244	0.269

Multivariate F = 1.18717 (Wilks)
 Degrees of Freedom = 4

another. Table 11 indicates no difference in cheating behavior across the three stages of moral judgment ($p > .05$). Table 12, however, indicates a significant difference ($p < .05$) in cheating/no cheating over the incentives levels. Upon examination this difference may be attributed to the comparison between incentives and the control group as reported earlier in this chapter. With the control group removed there was no difference in cheating/no cheating across Internal-External incentives ($p > .05$).

Table 11
Chi square of dichotomous cheating score and stages of moral judgment
(N = 296)

Count Row Pct Col Pct Tot Pct	Stage 3	Stage 4	Stage 5	
No Cheating	28 17.3 63.6 9.5	118 72.8 54.9 39.9	16 9.9 43.2 5.4	162 54.7%
Cheating	16 11.9 36.4 5.4	97 72.4 45.1 32.8	21 15.7 56.8 7.8	134 45.3%
	44 14.9%	215 72.4%	37 12.5%	296 100%

Chi Square = 3.38117

df = 2

p > .05

Crammer's V = 0.10688

Table 12
Chi square of dichotomous cheating score and incentive conditions
(N = 296)

Count Row Pct Col Pct Tot Pct	Incentives			
	Control	Internal	External	
No	65	47	51	163
Cheating	39.9	28.8	31.3	54.7%
	67.0	47.0	50.5	
	21.8	15.8	17.1	
	32	53	50	135
Cheating	23.7	39.3	37.0	45.3%
	33.0	53.0	49.5	
	10.7	17.8	16.8	
	97	100	101	296
	32.6%	33.6%	33.9%	100%

Chi Square = 9.04570

df = 2

p < .05

Crammer's V = 0.17423

Table 13

Chi square of dichotomous cheating score and two incentive conditions
(control removed) N = 201

Count	Incentives		
Row Pct			
Col Pct	Internal	External	
Tot Pct			
No	47	51	98
Cheating	48.0	52.0	48.8%
	47.0	50.5	
	23.4	25.4	
	53	50	103
Cheating	51.5	48.5	
	53.0	49.5	
	26.4	24.9	
	100	101	201
	49.8%	50.2%	100%

Chi Square = 0.12570

df = 1

p > .05

Crammer's V = 0.03496

CHAPTER 4

DISCUSSION

Chapter four, divided into two main sections, discusses the findings reported in the previous chapter. The first section discusses the findings of the study and concludes with a section which offers suggestions for future research.

DISCUSSION OF FINDINGS

The aim of the present research was to investigate two factors believed to have a direct effect on the cheating behavior of adolescent boys: stage of moral judgment and internal and external incentives. The results reported in chapter three supported the first hypothesis that either an internal or an external incentive would produce more cheating behavior when compared to the control group receiving no incentive. Based on the incentive literature, this result was not surprising but it did show that adolescents can be affected and their behavior changed by the administration of a brief verbal incentive.

Operationally, incentives have been defined as "the expectancy of a reward" (Witryol, 1969). The effectiveness of the two incentives used in the present study indicate that an incentive is based on the subject's past reinforcement history. If the subjects in the present study had not been brought up with a high regard for academic learning, the internal reward

would have been of little value and consequently probably ineffective. But owing to the high academic nature of the school and the high value placed on academic learning by the parents, the internal incentive which stressed need achievement and personal accomplishment was effective in heightening cheating behavior. This same incentive, however, may not prove to be effective in a less intellectually oriented group. The external incentive which was based on a promise of a valuable cash prize was judged to be of high motivational value and it proved to be such. Because of the age and social position of all subjects, the promise of a monetary reward may have formed a confounding effect of the distinction between the two incentives when compared to the stages of moral judgment. It may be that the construction of a monetary reward proved too strong for all subjects and not only for those at the lower end of the moral judgment continuum. It is suggested that in further research another external incentive be found.

The two incentives used in the present study were specifically designed for the subject group employed. It is not suggested that these incentives would be universally effective. All incentives are dependent on the age, socioeconomic state and intelligence of the subject group (Witryol, 1969): therefore, care must be taken in the construction of incentives for future research. The significant results of the incentive effect reported in chapter 3 lends support for the continuing research in this area with the adolescent population.

This significant incentive effect was lost, however, when the stage of moral judgment was added to the paradigm, indicating that the stages of moral judgment were not adequate in discriminating the cheaters from the

non-cheaters. Thus, the second and third hypotheses proposed in chapter two were not supported.

Interpretation of these non-significant results should be made in the light of the special, fluid personality characteristics of the subject group. While they responded to the two incentives in the expected fashion, they did not respond to the stages of moral judgment as hypothesized in chapter two. Based on the research of Kohlberg (1969), Rest (1974) and others, it has been found that as an individual progresses along the moral judgment continuum, cheating behavior decreases. This fact was not found in the present research. An examination of Tables 5, 6 and 7 indicates that both stage 3 and stage 5 subjects cheated to the same extent. This fact held not only in the fact of cheating (Table 5) but also in regard to the degree of cheating (Table 8) and in the Trial analysis (Table 9).

It is suggested that the non-significance found when the stages of moral judgment were added to the experimental design may be due to the unpredictability of the adolescent population. Kohlberg (1969) has indicated the fluidity with which adolescents shift back and forth between two or three stages. Kohlberg (1969) states that in adolescence, the use of any stage, either the subject's predominant stage or the stage +1 or -1, is dependent on ease of utility; that is, whatever stage fits the given situation will be utilized regardless of whether the subject has the ability to reason at a higher stage. This may have been a factor in the present research but was controlled for by telescoping the testing sessions into a two month period instead of the normal six month period advocated by Kohlberg (1969).

This difference in results, between Kohlberg's research and the present study, requires further elaboration. Participants were above average intellectually, middle to upper class, ethnically and religiously parochial, academically oriented, male and adolescent. These factors may have contributed to masking actual differences. It may be that their above average intelligence made it possible for them to see through the cover story used to conceal the true purpose of the Addition Test. Perhaps, they realized that the administration of the two verbal incentives was meant to encourage them to cheat. This, however, was not confirmed by the analysis of the Personal Survey nor by the debriefing session. It may be that their middle to upper class upbringing, which is concerned with high moral values, influenced their thinking so that something as simple as an addition test was considered to be a game and therefore amoral; that is, no connection may have been made in the minds of the subjects between the task at hand and morality per se. It was assumed that the subjects would perceive their cheating behavior to be immoral because of the intellectual and moral values conveyed in the social atmosphere of the school. It may be, however, that while they are constantly being asked and tested on questions of high moral value, those questions of lower significance may be looked upon as unimportant decisions and actions. For example, in the degree of cheating analysis, it was found that only two individuals cheated to the full extent of 35 times. The majority of those who did cheat, cheated only from between 6-15 times with the total possibilities being 35 times. This may indicate that while they were willing to cheat "a little bit", they may have been restrained from cheating to the full extent by

their learned, intellectual moral beliefs. It may be that they may have evaluated "a little bit of cheating" to be non-significant morally, while a high degree of cheating may have been judged to be highly immoral because of their stringent intellectual and moral education and because of their family's religious beliefs. Indeed, Blasi (1980) and Kohlberg (1969) emphasize that one requirement of all moral judgment research demands that the subject assesses the given situation as being moral. It may be that some of the subjects in the present research evaluated the cheating situation as being amoral or only a "little bit moral" while others may have evaluated it more severely. It may be pointed out that Kohlberg (1969) stated that the acquisition of any of the six stages does not demand that the subject use that particular stage in all of his moral judgments or that any particular stage be used at all. In this latter case, if no moral judgment was made in regard to the cheating-addition test, the action would then be amoral or if because of the simplicity and the perceived non-relevance to their lives at the time, the action also may have been totally amoral. As Grinder and Nelson (1980) point out, morality is a product of equilibration between thought and action. If this equilibration is not consciously entered into by the subject, then there is no subjective morality in his action. It is suggested that this may have happened in many of the subjects of the present research. It may have been that many of the subjects looked on the addition-cheating task as a game with no moral or personal meaning.

Given the non-significance of the fact of cheating, it is not surprising that the degree of cheating and trial differences were also

statistically non-significant: however, these findings of degree of cheating and trial differences would seem to be supported by the literature. Blasi (1980) reports eighteen separate research articles testing various relationships between the predictability of moral action and Piaget's stories, Kohlberg's interviews and Rest's Objective Test of Moral Judgment (D.I.T.). These eighteen articles show only a 50% success rate in the three levels of analysis employed in the present research. This may indicate the difficulty of assigning a quasi-permanent stage of moral judgment to any individual which will continue across time.

The two incentives used in the present research, while effective in producing significantly more cheating behavior than the control group, may have confounded the discrimination of the stages of moral judgment; that is, both incentives seem to have appealed to all three stages of moral judgment (Tables 6 & 7). This may indicate a necessity to broaden the distinction between incentives: consequently, the internal incentive, which included an appeal to the need for achievement may have appealed to stage 5 subjects because they were truly concerned with personal success and self-image but it may have appealed to stage 3 subjects also because they may have felt that they "should" be concerned with such matters but in reality were not concerned at all. The external incentive which promised a monetary reward also seems to have appealed to all stages of moral judgment. The power of the external incentive may be attributed to the materialism and inflationary circumstances experienced in all of North America.

Given the above considerations with all of their implications, it may be noted that the obtained results are indicative only of the population

sampled: bright, Catholic, male, university-bound, mid-western United States, upper division students; as such, this sample reflects a rather select adolescent population. It may be that less motivated students would respond differently to both the D.I.T. and to the incentives administered in the study. The age of the participants, likewise would call for some degree of caution in interpreting the results. The age of adolescence is a volatile, unpredictable age. This unpredictability has been confirmed by the now classic study of Gesell, Ilg and Ames (1956) and by Erickson (1968). Kohlberg (1969), referred to the importance and difficulty of conducting research with an adolescent population because the progression from one stage to another in many cases is not a permanent progression. Kohlberg and Kramer (1969) noted a regression in later adolescent years with an accelerated progression to stage 5 or stage 6 as they neared the end of their adolescent years. Kohlberg, however, was quick to point out that these subjects maintained the ability to reason at stage 5 or stage 6 but by choice chose to function at the stage 3 or stage 4 level simply because it was more convenient for them to do so. It may be that many of the subjects participating in the present research are in this state of regression whereby they were able to justify an action they knew to be immoral (intellectually) but one which they were able to justify in the practical realm. This was controlled for the telescoping the testing procedure into a two month period rather than Kohlberg's six month period.

The administration of the Addition Test with it's 35 opportunities to falsely report their performance may have been viewed by the participants as being too simple for students of their high intelligence and meaningless

to their self-concept. The whole task, then, may have become a game. If this was the case, then cheating behavior would become a simple matter of "how much can I get away with" and would be removed from the consideration of morality.

The Addition Test was chosen for the present research because it was judged to be a neutral academic task. All subjects had many years of experience in this simple mathematical exercise. This being the case, the computation of simple addition problems was thought to be the least threatening and a task that would serve to statistically equalize the intellectual abilities of the subjects. It may be, however, that the task was too simplistic for subjects of such high intellectual ability. Boredom or lack of involvement may have been another cause for the non-significant results, although the number of trials was increased from two trials in the 1977-78 study to five trials in the 1980-81 study in order to gain a higher degree of involvement.

Suggestions for Future Research

The present study was, of necessity, conducted in large groups both in the pre-testing (D.I.T.) and in the administration of the experimental Addition Tests. Perhaps, this academic setting produced an excessive amount of social pressure to conform or to rebel. It would be interesting to note differences in results if the experimental process were conducted on a one to one basis or in a different setting.

The present research has exposed several questions regarding the measurement and assigning of particular stages of moral judgment. Although the current research has failed to find significance between the behavior of the three stages studied, it did reveal statistically significant differences between the internal and external incentives and cheating behavior when compared to the control group. This would lead the author to agree with Blasi (1980) that serious progress in the field of moral development research can be made only with great difficulty. It may have to wait for the improvement of increasing the predictability of moral reasoning and moral action. This improvement in methodology, however, is dependent on perfecting the relations between general moral criteria and the choice of specific alternatives. Further research is needed that includes personality characteristics that are unrelated or only partially related to moral cognitive structures. As is becoming more and more obvious to investigators in moral development, based on the current research, the obvious gap between moral reasoning capability and moral behavior is dependent not only on intellectual reasoning but also on social, physiological and emotional pressure; in brief, on the whole being of the individual at any given time.

What appears to be needed is an explicit and direct focus on the physiological and psychological nature of integrity or of personal consistency: that is, on the processes and skills involved in the capacity to invest one's life with the meanings that are personally understood and accepted and which enable the individual to act in ways that are consistent with one's normal insight. What contemporary researchers often seem to

forget is that they are not dealing with laboratory animals but with living, constantly growing human individuals. Therefore, future research is suggested in the precisizing of moral judgment instruments and methodology and in the integration of these instruments with the influence of social and self-concept pressures. What is called for here is an integration of the cognitive-developmental concerns with those of social psychology bearing in mind the contribution of Freudian psychology.

Finally, it may be of interest to expand the investigation of moral reasoning and self-reporting of honesty to a less academically oriented sample and a less religiously oriented population. As pointed out earlier, the sample used for the current research responded as hypothesized to the incentives but the stages of moral judgment failed to discriminate between the cheaters and the non-cheaters according to the two incentives administered. This may have been caused by the heightened inhibition induced by their beliefs and values.

In sum, the extension of this study may focus on the precise determination of moral growth with particular attention to the following parameters: the influence of personal pressures to conform or to rebel from the values of society, the influence of peer groups, the relationship between moral reasoning and moral behavior and the fact of moral perception and moral judgment in each specific behavioral situation.

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APPENDIX 1
RESULTS OF THE 1977-78 STUDY

The results of the 1977-78 study are presented here in a somewhat abbreviated form. There were many analyses conducted on the data received from this study but what is presented here are the major analyses of that study.

Table 1 presents a composite chi square of the dichotomous cheating score, the internal and external incentives and the three stages of moral judgment. The results of the analysis were non-significant ($p > .05$). This composite table was then broken down to analyze each of the incentives separately. Table 2 and Table 3 show that there was no significant difference in cheating behavior and stages of moral judgment and incentives ($p > .05$). An analysis of variance (Table 4) was conducted to investigate possible differences in the degree of cheating behavior between the three stages of moral judgment and the two incentives used in the 1977-78 study. No significant differences were found ($p > .05$).

It should be noted here that there was no control group used in the 1977-78 study whereas in the 1980-81 study a control group was employed throughout the pilot study and experimental study. Also, in the 1977-78 study the trials were confined to two trials whereas in the 1980-81 study the number of trials was expanded to five trials in order to allow the subjects to become fully involved in the task at hand.

Table 1

Composite chi square of dichotomous cheating score and internal-external incentive and stages 3-4-5 of moral judgment (N = 354)

		Count				
		Row Pct				
		Col Pct				
		Tot Pct				
Predominant Stages	3	No Cheating		No Cheating		54 15.2%
		Internal Inc		External Inc		
		Cheating		Cheating		
		Internal Inc		External Inc		
	4	18	21	8	7	235 66.4%
		33.3	38.9	14.8	13.0	
		16.2	20.4	9.5	12.5	
		5.1	5.9	2.3	2.0	
	5	74	61	65	35	65 18.4%
		31.5	26.0	27.6	14.9	
		66.7	59.2	77.4	62.5	
		20.9	17.2	18.4	9.9	
Totals	19	21	11	14	354 100%	
	29.2	32.3	16.9	21.5		
	17.1	20.4	13.1	25.0		
	5.4	5.9	3.1	4.0		
		111	103	84	56	354
		31.4%	29.1%	23.7%	15.8%	100%

Chi Square = 9.32518

df = 6

p > .05

Cramer's V = 0.11477

Table 2

Chi square of dichotomous cheating score, internal incentive, stages of moral judgment (N = 195)

Stages of Moral Judgment	Count	Internal Incentive		
	Row Pct			
	Col Pct			
	Tot Pct			
		No Cheating	Cheating	
3		18	8	
		69.2	30.8	26
		16.2	9.5	13.3%
		9.2	4.1	
4		74	65	
		53.2	46.8	139
		66.7	77.4	71.3%
		37.9	33.3	
5		19	11	
		63.3	36.7	30
		17.1	13.1	15.4%
		9.7	5.6	
Totals		111	84	195
		56.9%	43.1%	100%

Chi Square = 2.87895

df = 2

p > .05

Cramer's V = 0.12151

Table 3
Chi square of dichotomous cheating score, external incentive, stages of moral judgment (N = 159)

	External Incentive			
	Count			
	Row Pct			
	Col Pct			
Stages of Moral Judgment	Tot Pct			
		No Cheating	Cheating	
3	21	7	28	
	75.0	25.0	17.6%	
	20.4	12.5		
	13.2	4.4		
4	61	35	96	
	63.5	36.5	60.4%	
	59.2	62.5		
	38.4	22.0		
5	21	14	35	
	60.0	40.0	22.0%	
	20.4	25.0		
	13.2	8.8		
Totals	103	56	159	
	64.8%	35.2%	100%	

Chi Square = 1.69685 df = 2 p > .05

Cramer's V = 0.10331

Table 4
 Analysis of variance of continuous cheating score and internal-external
 incentive and stages 3-4-5 of moral judgment (N = 354)

Source of Variation	SS	df	MS	F	p
Main Effects	31.738	3	10.579	1.692	0.168
Incentive	8.394	1	8.394	1.342	0.247
Predominant Stage	23.072	2	11.536	1.845	0.160
Two-Way Interactions					
Incentive					
Predominant Stage	0.221	2	0.111	0.018	0.982
Within Cell Error	2176.339	348	6.254		

APPENDIX 2

PILOT STUDY

(1980)

As a preliminary to the experimental study related in this thesis, a pilot study was conducted early in 1980 to confirm the effectiveness of four incentives on the cheating behavior of adolescents. One hundred and forty-three students from the subject school were randomly selected and divided into five incentive groups.

In order to demonstrate the effectiveness of the incentives used in the 1977-78 study, it was decided to use these two incentives together with two new incentives; a control group, receiving no incentive was also employed. The four incentives used in the pilot study read as follows:

Control Group --- No Incentive

"I am not authorized to answer any questions although I am sure you are wondering what this is all about. All of your questions will be answered after all of the testing sessions have been completed. In this part of the testing you will be asked to complete several tests of addition. Please work on the problems as presented, that is, do them in the order presented. Begin at the upper left hand corner and work across the top row, then begin on the left side of the second row and so on."

Old Internal Incentive (1977-78)

"I am not authorized to answer any questions although I am sure you are wondering what this is all about. All of your questions will be answered after all of the testing sessions have been completed. In this part of the testing you will be asked to complete several tests of addition. These have been found to be a very good indicator of future academic success. Please work on the problems as presented, that is, do them in the order presented. Begin at the upper left hand corner and work across the top row, then begin on the left side of the second row and so on.

Old External Incentive (1977-78)

"I am not authorized to answer any questions although I am sure you are wondering what this is all about. All of your questions will be answered after all of the testing sessions have been completed. In this part of the testing you will be asked to complete several tests

of addition. For those attaining a high level of performance, your names will be put into a pool from which one name will be drawn at random. The winner of this drawing will receive a considerable cash prize. Please work on the problems as presented, that is do them in the order presented. Begin at the upper left hand corner and work across the top row then begin on the left side of the second row and so on."

New Internal Incentive (1980-81)

"I am not authorized to answer any questions although I am sure you are wondering what this is all about. All of your questions will be answered after all of the testing sessions have been completed. In this part of the testing you will be asked to complete several tests of addition. Because this task demands concentration, speed of recall and physical and mental coordination, it has been found to be a very good indicator of future academic success in most subject areas. Furthermore, it has been found to be related to personal characteristics such as endurance, involvement, persistence and dedication. Please work on the problems as presented, that is, do them in the order presented. Begin at the upper left hand corner and work across the top row then begin on the upper left hand side of the second row and so on."

New External Incentive (1980-81)

"I am not authorized to answer any questions although I am sure you are wondering what this is all about. All of your questions will be answered after all of the testing sessions have been completed. In this part of the testing you will be asked to complete several tests of addition. Those people who attain a high score on the problems will have their names put into a pool from which several names will be chosen and awarded a very considerable cash prize when the study has been completed and the results tabulated. Please work on the problems as presented, that is, do them in the order presented. Begin at the upper left hand corner and work across the top row then begin on the left side of the second row and so on."

One incentive was then given verbally to each of the four incentive groups whereas the control group received only simple instructions as to the task at hand. These incentives (instructions) were given after asking the subjects for their attention in a serious tone of voice, clearly and succinctly. Each incentive was given before the first of the five trials only.

The internal and external incentives were formulated based on incentive research indicating that need achievement provided a strong incentive with adolescents and adults. Since 99% of all graduating seniors at Fenwick High School go on to University, it was thought to be an appropriate incentive. Underlying these incentives was an arousal of a sense of competition between the subject and other participants.

The Addition Test (Appendix 4) consisted of five trials of fifteen problems each with each problem containing five, three digit numbers. These numbers were generated from a table of random numbers (Haber, 1977) and were arranged in three rows of four problems and one row of three problems. Each problem was numbered from left to right with four spaces between the number and the problem itself. Subjects were instructed to work on the problems in the order presented. The time limits for each of the five addition tests were determined after pre-testing the mathematics faculty and the top grade 12 students at the test school. It was found that Test #1 could be finished in 6 minutes with no time left to recheck the problems and that Tests 2-3-4-5 could not be finished in 4 minutes. Thus, six and four minutes were selected as possible and impossible time limits.

The Addition Test as a means of determining the fact and amount of cheating follows the research of Julius (1978) and Sawyer (1978). Julius used an addition test of 80, four and five digit numbers typed eight to a row together with a time limit for the test. Sawyer used the method of giving incorrect answers to judge the degree of dishonesty displayed by his subjects. Both time limits and incorrect answers were used in this pilot study. The use of addition tests has been used in research investigating

need achievement and achievement performance in college samples (Lowell, 1962; Holmes & Tyler, 1968; Kabayashi, 1976). A test of addition was considered to be reasonably neutral, a task which would not upset or in any way cause a strong, negative emotional set in the subject, that is, arithmetical computation was considered to be a task on which all subjects would have had sufficient experience and would perform equivalently.

Procedure

After the verbal incentive had been administered to each of the four groups, the first of the Addition Tests was distributed face down. After the completion of Trial #1, an Addition Answer Sheet (Appendix 4) was distributed. Subjects were asked to copy only the answers they had computed in the spaces provided on the answer sheet. Trial #1 was then collected and deposited in a waste basket in full view of the subjects. This was done in order to convey the possibility of cheating on later trials to the minds of the subjects. Trial #2 was then distributed with the impossible time limit of 4 minutes. At the end of 4 minutes, subjects were asked to copy the answers they had computed on the Answer Sheet in the spaces provided under Trial #2. Trial #2 was then collected and deposited in the waste basket. This same procedure was followed for Trial 3-4-5. After Trial #5 was collected and deposited in the waste basket, the only thing the subjects had in front of them was the Test Answer Sheet on which were their answers for each of the five trials.

Finally, a Report of Test Results (Appendix 4) was distributed on which the subjects were asked to print their names, age and academic class. They were then told that the answers to the five addition tests would be

read to them and they were asked to correct their answers. The five administrators had been instructed to read each answer only once and to read them clearly and succinctly. The answers were read slowly, each digit being read at the rate of one digit per second. The administrators had previously been asked by the investigator not to add the problems before hand but simply to read the answers provided for them. This was done to avoid nervousness on the part of the administrator if he knew which of the answers were incorrect.

When the answers to Trial #1 had been read, subjects were asked to answer the following two questions in regard to Trial #1:

(1) Number of problems completed _____.

(2) Number of problems answered correctly _____.

The answers for Trial #2 were then read and the same two questions were asked in regard to Trial #2. The same procedure was followed for Trials 3-4-5.

Correction of Addition Tests

Each of the five addition tests contained 15 addition problems. Seven (7) incorrect answers were given within each test. From the Report of Test Results (Appendix 4), it was possible to ascertain not only the fact of cheating but the degree to which cheating occurred within each of the five trials. If the subject answered 15 to both questions on Trial #1 it was known that he cheated and to the extent of at least 7 times because while it was possible to finish Trial #1 within the 6 minute time limit, it is highly unlikely that he could have made the precise errors to come up with the 7 incorrect answers. In the case of Trials 2-3-4-5 if the subject

answered 15 to both questions, it was known from the first answer that he cheated because Trials 2-3-4-5 were impossible to complete within the 4 minute time limit. Such a subject was judged to have cheated 7 times for the reasons given above.

If, however, a subject answered less than 15 to the first question, it was still possible to ascertain the fact of cheating and the degree of cheating by counting the number of incorrect answers that had been given within the number reported completed by the subject (subjects had been directed to do the problems in the order given) and subtracting this number from the number completed. If the subject's answer to the second question was more than the number completed minus the number of incorrect answers, his continuous cheating score would be the number he reported as "answered correctly" minus the absolute number of correct answers given. In brief, his continuous cheating score would be the number of possible correct answers within his reported completion rate subtracted from his reported "correctly answered" rate.

Results

One hundred and forty-three subjects were randomly selected from the test school to participate in the pilot study of incentives. These 143 subjects were assigned to one of four incentive groups and one control group. A frequency distribution of these subjects across class and incentive groups appears in Table 1. From this distribution it can be seen that each of the incentive groups contained an equal number of students. One of the four incentives given above was administered to each of the incentive groups with simple instructions being reserved for the control

Table 1
Frequency distribution of class 10 and 11 over the five incentive conditions (N = 143)

	Control	Old Internal Incentive	Old External Incentive	New Internal Incentive	New External Incentive	
Class 10	16	17	17	16	16	82
Class 11	13	12	11	12	13	61
	29	29	28	28	29	143

Table 2
Chi square of dichotomous cheating score and the five incentive conditions
(N = 143)

Count			
Row Pct			
Col Pct	No	Cheating	
Tot Pct	Cheating		
Control	23	6	29
	79.3	20.7	20.3
	33.8	8.0	
	16.1	4.2	
Old Internal Incentive	16	13	29
	55.2	44.8	20.3
	23.5	17.3	
	11.2	9.1	
Old External Incentive	9	19	28
	32.1	67.9	19.6
	13.2	25.3	
	6.3	13.3	
New Internal Incentive	12	16	28
	42.9	57.1	19.6
	17.6	21.3	
	8.4	11.2	
New External Incentive	8	21	29
	27.6	72.4	20.3
	11.8	28.0	
	5.6	14.7	
	68	75	143
	47.6	52.4	100.0

Chi Square = 19.95143

df = 4

p < .001

Cramer's V = .37352

Table 3

Chi square of dichotomous cheating score and control incentive condition and old internal incentive condition (N = 158)

Count			
Row Pct			
Col Pct	No	Cheating	
Tot Pct	Cheating		
Control	23	6	29
Incentive	79.3	20.7	50.0
	59.0	31.6	
	39.7	10.3	
Old Internal	16	13	29
Incentive	55.2	44.8	50.0
	41.0	68.4	
	27.6	22.4	
	39	19	58
	67.2	32.8	100.0

Chi Square = 2.81781

df = 1

p > .05

Phi Coefficient = .25715

Table 4

Chi square of dichotomous cheating score and control incentive condition and old external incentive condition (N = 57)

Count			
Row Pct			
Col Pct	No	Cheating	
Tot Pct	Cheating		
Control	23	6	29
Incentive	79.3	20.7	50.9
	71.9	24.0	
	40.4	10.5	
Old External	9	19	28
Incentive	32.1	67.9	49.1
	28.1	76.0	
	15.8	33.3	
	32	25	57
	56.1	43.9	100.0

Chi Square = 11.02709

df = 1

p < .001

Phi Coefficient = .47520

group. A 5x2 chi square analysis was conducted in regard to the fact of cheating across the four incentive groups and the control (Table 2). The chi square value of 19.95143 ($df = 4$; $p < .001$) indicates a significant difference in cheating behavior between the five groups. In order to investigate this difference, separate chi squares were conducted to compare each incentive with the control group. Table 3 indicates no significant difference between the control group and the old internal incentive (chi square = 2.81781; $df = 1$; $p > .05$). Table 4 indicates that cheating behavior differed significantly between the control group and the old external incentive (chi square = 11.02709; $df = 1$; $p < .001$). Significant differences were also found when the new internal incentive (Table 5) was compared to the control group (chi square = 6.52342; $df = 1$; $p < .05$) and with the new external incentive (Table 6) as compared to the control group (chi square = 13.58183; $df = 1$; $p < .001$).

In order to be certain that the difference truly existed between the control group and the four incentives and not between the four incentives themselves, a 4x2 chi square analysis of cheating behavior over the four incentives (control removed) was conducted (Table 7). This analysis resulted in no significant differences in cheating behavior over the four incentive conditions (chi square = 5.47062; $df = 3$; $p > .05$) indicating that there was no statistical difference between any of the four incentive conditions used in the pilot study when compared to one another but that three of the incentive conditions were significantly different from the control group. These three were: the old external incentive, the new internal incentive and the new external incentive.

Table 5
Chi square of dichotomous cheating score and control incentive condition
and new internal incentive condition (N = 57)

Count			
Row Pct			
Col Pct	No	Cheating	
Tot Pct			
Control	23	6	29
Incentive	79.3	20.7	50.9
	65.7	27.3	
	40.4	10.5	
New Internal	12	16	28
Incentive	42.9	57.1	49.1
	34.3	72.7	
	21.1	28.1	
	35	22	57
	61.4	38.6	100.0

Chi Square = 6.52342

df = 1

p < .05

Phi Coefficient = .37434

Table 6
Chi square of dichotomous cheating score and control incentive condition
and new external incentive condition (N = 58)

Count			
Row Pct			
Col Pct	No	Cheating	
Tot Pct	Cheating	Cheating	
Control	23	6	29
Incentive	79.3	20.7	50.0
	74.2	22.2	
	39.7	10.3	
New External	8	21	29
Incentive	27.6	7.24	50.0
	25.8	77.8	
	13.8	36.2	
	31	27	58
	53.4	46.6	100.0
Chi Square = 13.58183			
df = 1			
p < .001			
Phi Coefficient = .51848			

Table 7

Chi square of dichotomous cheating score and the four incentive conditions (control removed) (N = 114)

Count			
Row Pct			
Col Pct	No	Cheating	
Tot Pct			
Old Internal Incentive	16	13	29
	55.2	44.8	25.4
	35.6	18.8	
	14.0	11.4	
Old External Incentive	9	19	28
	32.1	67.9	24.6
	20.0	27.5	
	7.9	16.7	
New Internal Incentive	12	16	28
	42.9	57.1	24.6
	26.7	23.2	
	10.5	14.0	
New External Incentive	8	21	29
	27.6	72.4	25.4
	17.8	30.4	
	7.0	18.4	
	45	69	114
	39.5	60.5	100.0

Chi Square = 5.470623

df = 3

p > .05

Cramer's V = .21906

Summary and Conclusions

Four incentives were pre-tested in this pilot-study: one internal and one external incentive which had been used in the 1977-78 study and one internal and one external incentive which were developed from the two incentives used in the 1977-78 study. A control group was also employed. Of these four incentives, three incentives displayed statistical significance when compared to the control group. The one incentive which proved to be non-significant was the old internal incentive. It was concluded on the basis of this non-significance that perhaps the incentive was too brief in its statement. This conclusion is supported by the significance of the new internal incentive which simply was made longer in its statement. Both of the external incentives were statistically significant. This significance may be attributed to the drawing power of a promise of the monetary reward.

Based on these results it was decided to limit the experimental testing sessions to the two new internal and external incentives with the addition of a control group within the experimental sessions themselves.

APPENDIX 3

THE DEFINING ISSUES TEST

PLEASE PRINT

NAME _____
 (Last) (First) (Middle Initial)

AGE _____
 (In Years)

ACADEMIC CLASS _____

(Please Print)

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.

Please give us the following information:

Name _____ female
Age _____ Class and period _____ male
School _____

* * * * *

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. Below 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 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.)

IMPORTANCE:

Great	Much	Some	Little	No	
				✓	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 <u>used</u> car be more economical in the long run than a <u>new</u> 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 favorite 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 connibillies 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 this 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," and so on.)

MOST SECOND MOST IMPORTANT THIRD MOST IMPORTANT FOURTH MOST IMPORTANT

In Europe a woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was a form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost 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

IMPORTANCE:

Great	Much	Some	Little	No	
					1. Whether a community's laws are going to be upheld.
					2. Isn't it only natural for a loving husband to care so much for his wife that he'd steal?
					3. Is Heinz willing to risk getting shot as a burglar or going to jail for the chance that stealing the drug might help?
					4. Whether Heinz is a professional wrestler, or has considerable influence with professional wrestlers.
					5. Whether Heinz is stealing for himself or doing this solely to help someone else.
					6. Whether the druggist's rights to his invention have to be respected.
					7. Whether the essence of living is more encompassing than the termination of dying, socially and individually.
					8. What values are going to be the basis for governing how people act towards each other.
					9. Whether the druggist is going to be allowed to hide behind a worthless law which only protects the rich anyhow.
					10. Whether the law in this case is getting in the way of the most basic claim of any member of society.
					11. Whether the druggist deserves to be robbed for being so greedy and cruel.
					12. Would stealing in such a case bring about more total good for the whole society or not.

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

Most important _____

Second Most Important _____

Third Most Important _____

Fourth Most Important _____

STUDENT TAKE-OVER

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 shouldn't take it over

IMPORTANCE:

Great Much Some Little No

☐	☐	☐	☐	☐	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

IMPORTANCE:

Great Much Some Little No

					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 systems?
					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 _____

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

IMPORTANCE:

Great Much Some Little No

					1. Whether the woman's family is in favor of giving her the overdose or not.
					2. Is the doctor obligated by the same laws as everybody else if giving her 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 cooperation.
					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 behavior.
					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 _____

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

IMPORTANCE:

Great Much Some Little No

					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 roles 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 the 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 _____

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

IMPORTANCE:

Great Much Some Little No

					1. Is the principal more responsible to students or to the 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 judgments?
					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 the 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 _____

APPENDIX 4

ADDITION TESTS
ANSWER SHEET
REPORT OF TEST RESULTS

TEST #1

$$\begin{array}{r} 1) \quad 843 \\ 350 \\ 943 \\ 365 \\ \hline 371 \end{array}$$

$$\begin{array}{r} 2) \quad 131 \\ 804 \\ 337 \\ 487 \\ \hline 933 \end{array}$$

$$\begin{array}{r} 3) \quad 850 \\ 259 \\ 143 \\ 481 \\ \hline 465 \end{array}$$

$$\begin{array}{r} 4) \quad 874 \\ 414 \\ 721 \\ 168 \\ \hline 119 \end{array}$$

$$\begin{array}{r} 5) \quad 671 \\ 226 \\ 816 \\ 695 \\ \hline 809 \end{array}$$

$$\begin{array}{r} 6) \quad 752 \\ 778 \\ 333 \\ 561 \\ \hline 988 \end{array}$$

$$\begin{array}{r} 7) \quad 979 \\ 715 \\ 383 \\ 870 \\ \hline 727 \end{array}$$

$$\begin{array}{r} 8) \quad 425 \\ 868 \\ 114 \\ 696 \\ \hline 783 \end{array}$$

$$\begin{array}{r} 9) \quad 902 \\ 752 \\ 498 \\ 719 \\ \hline 160 \end{array}$$

$$\begin{array}{r} 10) \quad 418 \\ 172 \\ 970 \\ 889 \\ \hline 982 \end{array}$$

$$\begin{array}{r} 11) \quad 882 \\ 315 \\ 371 \\ 511 \\ \hline 316 \end{array}$$

$$\begin{array}{r} 12) \quad 306 \\ 992 \\ 567 \\ 292 \\ \hline 266 \end{array}$$

$$\begin{array}{r} 13) \quad 729 \\ 967 \\ 692 \\ 917 \\ \hline 475 \end{array}$$

$$\begin{array}{r} 14) \quad 429 \\ 438 \\ 760 \\ 655 \\ \hline 811 \end{array}$$

$$\begin{array}{r} 15) \quad 505 \\ 539 \\ 290 \\ 889 \\ \hline 784 \end{array}$$

TEST #2

$$\begin{array}{r} 1) \quad 114 \\ 805 \\ 902 \\ 982 \\ \hline 837 \end{array}$$

$$\begin{array}{r} 2) \quad 596 \\ 123 \\ 823 \\ 490 \\ \hline 914 \end{array}$$

$$\begin{array}{r} 3) \quad 511 \\ 604 \\ 930 \\ 952 \\ \hline 533 \end{array}$$

$$\begin{array}{r} 4) \quad 340 \\ 592 \\ 818 \\ 120 \\ \hline 499 \end{array}$$

$$\begin{array}{r} 5) \quad 850 \\ 237 \\ 237 \\ 495 \\ \hline 983 \end{array}$$

$$\begin{array}{r} 6) \quad 686 \\ 710 \\ 759 \\ 638 \\ \hline 750 \end{array}$$

$$\begin{array}{r} 7) \quad 694 \\ 714 \\ 718 \\ 706 \\ \hline 338 \end{array}$$

$$\begin{array}{r} 8) \quad 229 \\ 624 \\ 824 \\ 527 \\ \hline 871 \end{array}$$

$$\begin{array}{r} 9) \quad 728 \\ 852 \\ 225 \\ 945 \\ \hline 602 \end{array}$$

$$\begin{array}{r} 10) \quad 423 \\ 736 \\ 607 \\ 727 \\ \hline 345 \end{array}$$

$$\begin{array}{r} 11) \quad 512 \\ 921 \\ 645 \\ 532 \\ \hline 948 \end{array}$$

$$\begin{array}{r} 12) \quad 765 \\ 637 \\ 545 \\ 652 \\ \hline 428 \end{array}$$

$$\begin{array}{r} 13) \quad 335 \\ 259 \\ 406 \\ 999 \\ \hline 790 \end{array}$$

$$\begin{array}{r} 14) \quad 733 \\ 299 \\ 843 \\ 777 \\ \hline 849 \end{array}$$

$$\begin{array}{r} 15) \quad 798 \\ 222 \\ 529 \\ 943 \\ \hline 555 \end{array}$$

$$\begin{array}{r} 1) \quad 660 \\ 310 \\ 852 \\ 635 \\ \hline 737 \end{array}$$

$$\begin{array}{r} 2) \quad 985 \\ 118 \\ 834 \\ 886 \\ \hline 995 \end{array}$$

$$\begin{array}{r} 3) \quad 654 \\ 801 \\ 743 \\ 699 \\ \hline 098 \end{array}$$

$$\begin{array}{r} 4) \quad 914 \\ 803 \\ 441 \\ 125 \\ \hline 636 \end{array}$$

$$\begin{array}{r} 5) \quad 611 \\ 154 \\ 945 \\ 424 \\ \hline 235 \end{array}$$

$$\begin{array}{r} 6) \quad 321 \\ 692 \\ 195 \\ 451 \\ \hline 948 \end{array}$$

$$\begin{array}{r} 7) \quad 980 \\ 331 \\ 809 \\ 797 \\ \hline 186 \end{array}$$

$$\begin{array}{r} 8) \quad 740 \\ 541 \\ 166 \\ 483 \\ \hline 690 \end{array}$$

$$\begin{array}{r} 9) \quad 091 \\ 900 \\ 731 \\ 757 \\ \hline 540 \end{array}$$

$$\begin{array}{r} 10) \quad 765 \\ 648 \\ 196 \\ 903 \\ \hline 801 \end{array}$$

$$\begin{array}{r} 11) \quad 340 \\ 455 \\ 210 \\ 503 \\ \hline 350 \end{array}$$

$$\begin{array}{r} 12) \quad 149 \\ 398 \\ 865 \\ 875 \\ \hline 628 \end{array}$$

$$\begin{array}{r} 13) \quad 174 \\ 177 \\ 744 \\ 662 \\ \hline 142 \end{array}$$

$$\begin{array}{r} 14) \quad 684 \\ 269 \\ 851 \\ 111 \\ \hline 165 \end{array}$$

$$\begin{array}{r} 15) \quad 264 \\ 952 \\ 678 \\ 973 \\ \hline 732 \end{array}$$

TEST #4

1) 752
640
268
454
139

2) 873
201
175
194
361

3) 452
419
963
719
981

4) 775
809
520
312
876

5) 328
519
476
209
662

6) 785
813
815
616
397

7) 346
248
232
383
640

8) 663
353
686
905
358

9) 221
507
137
367
918

10) 580
453
432
369
464

11) 461
702
329
128
402

12) 519
593
546
168
689

13) 458
961
333
836
772

14) 556
159
404
436
348

15) 449
894
201
698
310

TEST #5

1)	519	2)	583	3)	742	4)	238
	742		735		473		553
	708		612		752		774
	428		854		491		530
	<u>748</u>		<u>458</u>		<u>878</u>		<u>438</u>

5)	237	6)	288	7)	179	8)	493
	177		128		632		123
	820		838		695		973
	833		630		764		851
	<u>179</u>		<u>883</u>		<u>267</u>		<u>458</u>

9)	846	10)	619	11)	191	12)	886
	297		172		147		748
	590		688		111		285
	763		352		781		740
	<u>295</u>		<u>356</u>		<u>274</u>		<u>657</u>

13)	662	14)	907	15)	886
	931		881		712
	551		164		279
	403		266		808
	<u>708</u>		<u>413</u>		<u>335</u>

ADDITION ANSWER SHEETTEST # 1

- | | | | |
|-----------|-----------|-----------|-----------|
| 1) _____ | 2) _____ | 3) _____ | 4) _____ |
| 5) _____ | 6) _____ | 7) _____ | 8) _____ |
| 9) _____ | 10) _____ | 11) _____ | 12) _____ |
| 13) _____ | 14) _____ | 15) _____ | |
-

TEST # 2

- | | | | |
|-----------|-----------|-----------|-----------|
| 1) _____ | 2) _____ | 3) _____ | 4) _____ |
| 5) _____ | 6) _____ | 7) _____ | 8) _____ |
| 9) _____ | 10) _____ | 11) _____ | 12) _____ |
| 13) _____ | 14) _____ | 15) _____ | |
-

TEST # 3

- | | | | |
|-----------|-----------|-----------|-----------|
| 1) _____ | 2) _____ | 3) _____ | 4) _____ |
| 5) _____ | 6) _____ | 7) _____ | 8) _____ |
| 9) _____ | 10) _____ | 11) _____ | 12) _____ |
| 13) _____ | 14) _____ | 15) _____ | |
-

ADDITION ANSWER SHEETTEST # 4

- | | | | |
|-----------|-----------|-----------|-----------|
| 1) _____ | 2) _____ | 3) _____ | 4) _____ |
| 5) _____ | 6) _____ | 7) _____ | 8) _____ |
| 9) _____ | 10) _____ | 11) _____ | 12) _____ |
| 13) _____ | 14) _____ | 15) _____ | |
-

TEST # 5

- | | | | |
|-----------|-----------|-----------|-----------|
| 1) _____ | 2) _____ | 3) _____ | 4) _____ |
| 5) _____ | 6) _____ | 7) _____ | 8) _____ |
| 9) _____ | 10) _____ | 11) _____ | 12) _____ |
| 13) _____ | 14) _____ | 15) _____ | |
-

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TEST # 1- - - - - Number of problems completed _____
Number of problems completed CORRECTLY _____

TEST # 3- - - - - Number of problems completed _____
Number of problems completed CORRECTLY _____

TEST # 5- - - - - Number of problems completed _____
Number of problems completed CORRECTLY _____

APPENDIX 5
PERSONAL SURVEY

PERSONAL SURVEY

I wish to thank you, the students, for participating in this study and the school administration for giving me the time to administer these tests. As a final part of this study I ask you to share the feelings you have experienced during the two testing situations.

This survey and the other parts of this study will be held in the strictest confidence and will not become known to any school personnel.

Thank you for your cooperation and honesty.

INSTRUCTIONS:

1. PLACE AN "X" OVER THE ANSWER THAT MOST CLEARLY DESCRIBES YOUR FEELINGS.

PERSONAL SURVEY

1. Did you find that you became personally involved in these testing sessions?

/	/	/	/
Not involved at all	Only in part	Moderately involved	Very involved

2. Did you find the testing sessions to be interesting?

/	/	/	/
Not interesting at all	Only in part	Moderately interesting	Very interesting

3. Did you enjoy participating in this study?

/	/	/	/
Not enjoyable at all	Only in part	Moderately enjoyable	Very enjoyable

4. Do you feel that you have learned anything from the first testing situation that is relevant to your life?

/	/	/	/
Learned nothing at all	Learned a few things	Learned to a moderate degree	Learned a lot

5. Do you feel that the arithmetic test was an important part of the total study?

	/		/		/
Not important at all		Slight importance		Moderate importance	
					Very important

6. What factors motivated you to do well on the arithmetic test? Please answer in a few short sentences?

7. Do you feel that the arithmetic test was a useful part of the total study?

	/		/		/
Not useful at all		Minor usefulness		Moderately useful	
					Very useful

8. Do you feel that it was important for you to do well on the arithmetic test?

	/		/		/
Not important at all		Somewhat important		Moderately important	
					Very important

9. Did you feel uncomfortable during the arithmetic test?

Not uncomfortable at all	/	A little bit uncomfortable	/	Moderately uncomfortable	/	Very uncomfortable
-----------------------------	---	-------------------------------	---	-----------------------------	---	-----------------------

10. Rate your concern about not having enough time during the arithmetic test.

Not concerned at all	/	A little bit concerned	/	Moderately concerned	/	Very concerned
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11. The time limits on the arithmetic test were:

Completely unreasonable	/	Somewhat unreasonable	/	Made it difficult to finish	/	Were completely reasonable
----------------------------	---	--------------------------	---	-----------------------------------	---	----------------------------------

12. Do you feel you answered the questions on the arithmetic answer sheet honestly?

No	/	Partly	/	Generally yes	/	Absolutely
----	---	--------	---	------------------	---	------------

9. Did you feel uncomfortable during the arithmetic test?

/	/	/
Not uncomfortable at all	A little bit uncomfortable	Moderately uncomfortable
		Very uncomfortable

10. Rate your concern about not having enough time during the arithmetic test.

/	/	/
Not concerned at all	A little bit concerned	Moderately concerned
		Very concerned

11. Before the arithmetic test you were told that this test was a good indicator of your future college performance. Did this information influence your effort on the arithmetic test?

/	/	/
No influence at all	Not sure	Moderately influenced
		Very greatly influenced

12. Do you feel you answered the questions on the arithmetic answer sheet honestly?

/	/	/
No	Partly	Generally yes
		Absolutely

9. Did you feel uncomfortable during the arithmetic test?

/	/	/
Not uncomfortable at all	A little bit uncomfortable	Moderately uncomfortable
		Very uncomfortable

10. Rate your concern about not having enough time during the arithmetic test.

/	/	/
Not concerned at all	A little bit concerned	Moderately concerned
		Very concerned

11. Did the offer of a valuable cash prize influence your effort on the arithmetic test?

/	/	/
No influence at all	Not sure	Moderately influenced
		Very greatly influenced

12. Do you feel you answered the questions on the arithmetic answer sheet honestly?

/	/	/
No	Partly	Generally yes
		Absolutely

13. Did you think about falsifying your answers on the arithmetic answer sheet?

/	/	/
Not at all	It crossed my mind	Seriously considered it
		I did falsify the answers

14. How many of your classmates do you feel did falsify their answers on the arithmetic answer sheet?

/	/	/
Less than 20%	Between 20-50%	Between 50-80%
		Between 80-100%

15. What in your opinion, was the purpose of this total study?
(Explain your ideas as fully as possible)

Please write a brief essay on your feelings about being asked to participate in this study, i.e.,

1. Did you enter into the two testing situations with a desire to "really help" or because you had to do it?
2. Did you think the whole thing was stupid but a good way to get out of class?
3. Do you feel that some of the questions were an invasion of your privacy?
4. What would be an appropriate title for the entire study?
5. Please feel free to make any other comments.

APPENDIX 6

EIGHT SCORING CATERGORIES
FROM THE
1980-81 ADMINISTRATION
OF THE
DEFINING ISSUES TEST (D.I.T.)

Pretest Scores Across the Eight Scoring Categories

Moral Judgment Stages		SUM	MEAN	STD	VARIANCE	N
2	Class 10	851	5.9097	3.4294	11.7610	144
	Class 11	784	5.1921	3.8570	14.8762	151
	Tot. Pop.	1635	5.5424	3.6660	13.4395	295
3	Class 10	1954	13.5694	5.3174	28.2749	144
	Class 11	1911	12.6556	5.7770	33.3740	151
	Tot. Pop.	3865	13.1017	5.5668	30.9896	295
4	Class 10	3136	21.7380	5.7964	33.5866	144
	Class 11	3094	20.4901	6.1143	37.3849	151
	Tot. Pop.	6230	31.1186	5.9855	35.8260	295
5a	Class 10	1522	10.5694	4.7241	22.3168	144
	Class 11	1795	11.8874	5.7649	33.2339	151
	Tot. Pop.	3317	11.2441	5.3147	28.2464	295
5b	Class 10	367	2.5486	2.3795	5.6620	144
	Class 11	501	3.3179	2.9198	8.5249	151
	Tot. Pop.	868	2.9424	2.6929	7.2518	295
6	Class 10	272	1.8889	2.4153	5.8337	144
	Class 11	388	2.5695	2.7484	7.5535	151
	Tot. Pop.	660	2.2373	2.6091	6.8074	295
A	Class 10	239	1.6597	1.7468	3.0512	144
	Class 11	259	1.7152	2.1303	4.5384	151
	Tot. Pop.	498	1.6881	1.9495	3.8004	295
M	Class 10	277	1.9236	2.0073	4.0291	144
	Class 11	311	2.0596	2.1424	4.5888	151
	Tot. Pop.	588	1.9932	2.0751	4.3061	295

APPENDIX 7

SCORING INSTRUCTIONS FOR THE D.I.T.

2. SCORING THE D.I.T.

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 the first four rankings at the bottom of the test page.
3. For the "question" marked as most important (Rank #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
Students	3	4	2	5A	5A	3	6	4	3	A	5B	4
Prisioner	3	4	A	4	6	M	3	4	3	4	5A	5A
Doctor	3	4	A	2	5A	M	3	6	4	5B	4	5A
Webster	4	4	3	2	6	A	5A	5A	5B	3	4	3
Newspaper	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 Reasoning" 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.

Consistency Check

Check the reliability of your data by observing the consistency between a subject's ratings and rankings. If a subject ranks an item 1st, then his ratings for the item should have no other items higher (although other items may tie in rating). Similarly, if a subject ranks an item 2nd, then his rating for that item should have no other items higher except the item ranked 1st. If there are items not chosen as 1st or second choices which are rated higher than the ratings of the items chosen as 1st or 2nd, then there is an inconsistency between the subject's rankings and ratings due to careless responding, random checking, misunderstanding of instructions, changing one's mind about an item, etc. In short, inconsistency raises questions about the reliability of the subject's entire protocol, although a little inconsistency might be tolerated. As a rule of thumb, look at the inconsistencies in a subject's first and second ranks and discard a subject's whole protocol if there are inconsistencies on more than 2 stories, or if the number of inconsistencies on any story exceeds 8 instances. Also, if a subject shows little discrimination in his

ratings (for instance, rates every item as "some importance") there is the suspicion that he may not be taking the test seriously. As a rule of thumb, discard a protocol if two stories have more than 9 items rated the same.

APPENDIX 8

CHI SQUARE
OF
PERSONAL SURVEY
AND
THREE INCENTIVE CONDITIONS

PERSONAL SURVEY1. Did you find that you became personally involved in the testing sessions?

Count Row Pct Col Pct Tot Pct	Not Involved At All	Only in Part	Moderately Involved	Very Involved	
Control Group	15 15.5 22.1 5.0	33 34.0 40.2 11.1	32 33.0 32.7 10.7	17 17.5 24.0 5.7	97 32.6%
Internal Incentive	29 29.0 42.6 9.7	26 26.0 31.7 8.7	33 33.0 33.7 11.1	12 12.0 24.0 4.0	100 33.6%
External Incentive	24 23.8 35.3 8.1	23 22.8 28.0 7.7	33 32.7 33.7 11.1	21 20.8 42.0 7.0	101 33.9%
	68 22.8%	82 27.5%	98 32.9%	50 16.8%	298 100%

Chi Square = 8.77921

df = 6

p = 0.18640

Cramer's V = 0.12137

2. Did you find the testing sessions to be interesting?

Count Row Pct Col Pct Tot Pct	Not Interesting At All	Only in Part	Moderately Interesting	Very Interesting	
Control Group	29 29.9 30.9 9.7	24 24.7 26.7 8.1	37 38.1 38.1 12.4	7 7.2 41.2 2.3	97 32.6%
Internal Incentive	32 32.0 34.0 10.7	39 39.0 43.3 13.1	24 24.0 24.7 8.1	5 5.0 29.4 1.7	100 33.6%
External Incentive	33 32.7 35.1 11.1	27 26.7 30.0 9.1	36 35.6 37.1 12.1	5 5.0 29.4 1.7	101 33.9%
	94 31.5%	90 30.2%	97 32.6%	17 5.7%	298 100%

Chi Square = 8.10550

df = 6

p = 0.2305

Cramer's V = 0.11662

3. Did you enjoy participating in the Study?

Count Row Pct Col Pct Tot Pct	Not Enjoyable At All	Only in Part	Moderately Enjoyable	Very Enjoyable	
Control Group	17 17.9 23.3 5.7	33 34.7 32.7 11.1	33 34.7 37.5 11.1	12 12.6 35.3 4.1	97 32.6%
Internal Incentive	27 27.0 37.0 9.1	35 35.0 34.7 11.8	27 27.0 30.7 9.1	11 11.0 32.4 3.7	100 33.6%
External Incentive	29 28.7 39.7 9.8	33 32.7 32.7 11.1	28 27.7 31.8 9.5	11 10.9 32.4 3.7	101 33.9%
	73 24.7%	101 34.1%	88 29.7%	34 11.5%	298 100%

Chi Square = 4.10182

df = 6

p = 0.66290

Cramer's V = 0.08324

4. Do you feel that you have learned anything from the first testing session that is relevant to your life?

Count Row Pct Col Pct Tot Pct	Learned Nothing At All	Learned A Few Things	Learned to A Moderate Degree	Learned a Lot	
Control Group	30 30.9 29.4 10.1	41 42.3 38.3 13.8	19 19.6 32.2 6.4	7 7.2 23.3 2.3	97 32.6%
Internal Incentive	34 34.0 33.3 11.4	35 35.0 32.7 11.7	22 22.0 37.3 7.4	9 9.0 30.0 3.0	100 33.6%
External Incentive	38 37.6 37.3 12.8	31 30.7 29.0 10.4	18 17.8 30.5 6.0	14 13.9 46.7 4.7	101 33.9%
	102 34.2%	107 35.9%	59 19.8%	30 10.1%	298 100%

Chi Square = 5.31786

df = 6

p = 0.5037

Cramer's V = 0.09446

5. Do you feel that the arithmetic test was an important part of the total study?

Count Row Pct Col Pct Tot Pct	Not Important At All	Slight Importance	Moderate Importance	Very Important	
Control Group	9 9.3 15.8 3.0	40 41.2 41.7 13.4	33 34.0 36.3 11.1	15 15.5 27.8 5.0	97 32.6%
Internal Incentive	24 24.0 42.1 8.1	28 28.0 29.2 9.4	29 29.0 31.9 9.7	19 19.0 35.2 6.4	100 33.6%
External Incentive	24 23.8 42.1 8.1	28 27.7 29.2 9.4	29 28.7 31.9 9.7	20 19.8 37.0 6.7	101 33.9%
	57 19.1%	96 32.2%	91 30.5%	54 18.1%	298 100%

Chi Square = 12.08100

df = 6

p = 0.06020

Cramer's V = 0.14237

6. What factors motivated you to do well on the arithmetic test?

(NOTE: If the internal or external incentive was mentioned specifically it was scored a 4; if not it was scored a 1. Since no incentive was given to the Control Group all mention of various motivations was purely spontaneous)

Count Row Pct Col Pct Tot Pct	No Mention	Specific Mention	
Control Group	89 93.7 35.6 30.1	6 5.3 11.1 1.7	95 32.1%
Internal Incentive	95 95.0 38.0 32.1	5 5.0 11.1 1.7	100 33.8%
External Incentive	66 65.3 26.4 22.3	35 34.7 77.8 11.8	101 34.1%
	250 84.5%	46 15.5%	296 100%

Chi Square = 46.91220

df = 2

p = 0.0005

Cramer's V = 0.28150

7. Do you feel that the arithmetic test was a useful part of the total study?

Count Row Pct Col Pct Tot Pct	Not Useful At All	Minor Usefulness	Moderately Useful	Very Useful	
Control Group	9 9.3 17.3 3.0	41 42.3 45.1 13.8	36 37.1 31.0 12.1	11 11.3 28.2 3.7	97 32.6%
Internal Incentive	17 17.0 32.7 5.7	30 30.0 33.0 10.1	39 39.0 33.6 13.1	14 14.0 35.9 4.7	100 33.6%
External Incentive	26 25.7 50.0 8.7	20 19.8 22.0 6.7	41 40.6 35.3 13.8	14 13.9 35.9 4.7	101 33.9%
	52 17.4%	91 30.5%	116 38.9%	39 13.1%	298 100%

Chi Square = 16.38654

df = 6

p = 0.0118

Cramer's V = 0.16581

8. Do you feel it was important for you to do well on the arithmetic test?

Count Row Pct Col Pct Tot Pct	Not Important At All	Somewhat Important	Moderately Important	Very Important	
Control Group	15 15.5 25.4 5.0	22 22.7 28.6 7.4	36 37.1 37.5 12.1	24 24.7 36.4 8.1	97 32.6%
Internal Incentive	20 20.0 33.9 6.7	26 26.0 33.8 8.7	33 33.0 34.4 11.1	21 21.0 31.8 7.0	100 33.6%
External Incentive	24 23.8 40.7 8.1	29 28.7 37.7 9.7	27 26.7 28.1 9.1	21 20.8 31.8 7.0	101 33.9%
	59 19.8%	77 25.8%	96 32.2%	66 22.1%	298 100%

Chi Square = 4.54450

df = 6

p = 0.60340

Cramer's V = 0.08732

9. Did you feel uncomfortable during the arithmetic test?

Count Row Pct Col Pct Tot Pct	Not At All Uncomfortable	Little Bit Uncomfortable	Moderately Uncomfortable	Very Uncomfortable	
Control Group	27 27.8 27.6 9.1	38 39.2 36.2 12.8	20 20.6 33.9 6.7	12 12.4 33.3 4.0	97 32.6%
Internal Incentive	39 39.0 39.8 13.1	31 31.0 29.5 10.4	18 18.0 30.5 6.0	12 12.0 33.3 4.0	100 33.6%
External Incentive	32 31.7 32.7 10.7	36 35.6 34.3 12.1	21 20.8 35.6 7.0	12 11.9 33.3 4.0	101 33.9%
	98 32.9%	105 35.2%	59 19.8%	36 12.1%	298 100%

Chi Square = 3.13216

df = 6

p = 0.79210

Cramer's V = 0.07249

10. Rate your concern about not having enough time during the arithmetic test?

Count Row Pct Col Pct Tot Pct	Not Concerned At All	Little Bit Concerned	Moderately Concerned	Very Concerned	
Control Group	14 14.4 22.2 4.7	30 30.9 35.7 10.1	23 23.7 29.5 7.7	30 30.9 41.1 10.1	97 32.6%
Internal Incentive	35 35.0 55.6 11.7	22 22.0 26.2 7.4	23 23.0 29.5 7.7	20 20.0 27.4 6.7	100 33.6%
External Incentive	14 13.9 22.2 4.7	32 31.7 38.1 10.7	32 31.7 41.0 10.7	23 22.8 31.5 7.7	101 33.9%
	63 21.1%	84 28.2%	78 26.2%	73 24.5%	298 100%

Chi Square = 20.10260

df = 6

p = 0.00270

Cramer's V = 0.18365

11. NOTE: Each of the incentive groups received a different question 11.

CONTROL: The time limits on the arithmetic test were:

INTERNAL: Before the arithmetic test you were told that this test was a good indicator of your future academic success. Did this information influence your effort on the arithmetic test?

EXTERNAL: Did the offer of a very considerable cash prize influence your effort on the arithmetic test?

The responses again ran completely negative to completely positive.

Count Row Pct Col Pct Tot Pct	No Influence At All	Not Sure	Moderate Influence	Very Great Influence	
Control Group	9 9.4 16.1 3.1	24 25.0 34.8 8.1	44 45.8 44.9 14.9	19 19.8 26.4 6.4	97 32.6%
Internal Incentive	20 20.0 35.7 6.8	32 32.0 46.4 10.8	26 26.0 26.5 8.8	22 22.0 30.6 7.5	100 33.6%
External Incentive	27 27.3 48.2 9.2	13 13.1 18.8 4.4	28 28.3 28.6 9.5	31 31.3 43.1 10.5	101 33.9%
	56 19.0%	69 23.4%	98 33.2%	72 24.4%	298 100%

Chi Square = 25.93996

df = 6

p = 0.0002

Cramer's V = 0.20968

12. Do you feel you answered the questions on the Report of Test Results honestly?

Count Row Pct Col Pct Tot Pct	No	Partly	Generally Yes	Absolutely	
Control Group	2 2.1 40.0 0.7	6 6.2 37.5 2.0	35 36.1 38.9 11.7	54 55.7 28.9 18.1	97 32.6%
Internal Incentive	2 2.0 40.0 0.7	5 5.0 31.3 1.7	29 29.0 32.2 9.7	64 64.0 34.2 21.5	100 33.6%
External Incentive	1 1.0 20.0 0.3	5 5.0 31.3 1.7	26 25.7 28.9 8.7	69 68.3 36.9 23.2	101 33.9%
	5 1.7%	16 5.4%	90 30.2%	187 62.8%	298 100%

Chi Square = 3.732620

df = 6

p = 0.71280

Cramer's V = 0.07914

13. Did you think about falsifying your answers on the arithmetic answer sheet?

Count Row Pct Col Pct Tot Pct	Not At All	It Crossed My Mind	Seriously Considered It	I Did Falsify The Answers	
Control Group	26 26.8 24.5 8.7	46 47.4 35.4 15.4	13 13.4 37.1 4.4	12 12.4 44.4 4.0	97 32.6%
Internal Incentive	38 38.0 35.8 12.8	42 42.0 32.3 14.1	12 12.0 34.3 4.0	8 8.0 29.6 2.7	100 33.6%
External Incentive	42 41.6 39.6 14.1	42 41.6 32.3 14.1	10 9.9 28.6 3.4	7 6.9 25.9 2.3	101 33.9%
	106 35.6%	130 43.6%	35 11.7%	27 9.1%	298 100%

Chi Square = 6.09401

df = 6

p = 0.41270

Cramer's V = 0.10112

14. How many of your classmates do you feel did falsify their answers on the arithmetic answer sheet?

Count Row Pct Col Pct Tot Pct	Between 0-20%	Between 20-50%	Between 50-80%	Between 80-100%	
Control Group	36 37.1 33.6 12.1	35 36.1 33.7 11.7	17 17.5 33.3 5.7	9 9.3 25.0 3.0	97 32.6%
Internal Incentive	37 37.0 34.6 12.4	36 36.0 34.6 12.1	19 19.0 37.3 6.4	8 8.0 22.2 2.7	100 33.6%
External Incentive	34 33.7 31.8 11.4	33 32.7 31.7 11.1	15 14.9 29.4 5.0	19 18.8 52.8 6.4	101 33.9%
	107 35.9%	104 34.9%	51 17.1%	36 12.1%	298 100%

Chi Square = 6.74782

df = 6

p = 0.34480

Cramer's V = 0.10640