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The Effect of Extrinsic Contingencies on a Person's Intrinsic and Continuing Motivation to Help Others and on the Frequency of Such Behavior

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THE EFFECT OF EXTRINSIC CONTINGENCIES ON A PERSON'S INTRINSIC AND CONTINUING MOTIVATION TO HELP OTHERS AND ON THE FREQUENCEY OF SUCH BEHAVIOR

by

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VITA

The author, Gerald Fredrick Kicanas, is the son of Fred Joseph Kicanas and Eve (Abdella) Kicanas. He was born August 18, 1941, in Chicago, Illinois.

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CHAPTER I

INTRODUCTION

Today in most social psychology textbooks, there is a chapter on helping, generosity, prosocial, or altruistic behavior (e.g. Baron, Byrne, and Griffitt, 1974; Berkowitz, 1975; Berkowitz, 1977; Freedman, Carlsmith, and Sears, 1974; Gagne and Middlebrooks, 1977; Worchel and Cooper, 1976). A great number of studies in the past ten years have investigated numerous hypotheses related to the nature and determinants of helping behavior. Older major reviews (Bryan and London, 1970; Bryan, 1972; Krebs, 1970) seem to indicate that altruistic behavior is situationally determined. More recent research suggests interactional and multi-variable approaches to understanding altruistic behavior (Bowers, 1973; Endler and Magnusson, 1976; Gagne and Middlebrooks, 1977; Wilson, 1976). Altruism appears to be a function of a continuous process or multidirectional interaction between the individual and the situation. Bar-Tal (1976) defines prosocial behavior as behavior done without external coercion and to benefit another. Gagne and Middlebrooks (1977) speak of generosity as the sharing or the helping of others for no apparent gain to oneself. As defined, it would appear that altruism, being an act performed without extrinsic influence, is intrinsically motivated. So it can be said that in performing altruistic acts the person experiences self as origin of the behavior.

While socio-biologists (Wilson, 1975) say there appears to be something genetic about altruism and that this innate quality leads

to survival in groups, it appears that prosocial behavior is learned (Bar-Tal, 1976). The best proof of this is found in the data that show the relationship of prosocial behavior to age (Green and Schneider, 1974; Handlon and Gross, 1959; Ugurel-Semin, 1952). Prosocial behavior increases with age. This could simply be that there are increased opportunities to demonstrate altruism. This could also be attributed to maturation in interpersonal skills or as a result of modeling or perhaps as a result of moral development or as a result of reinforcement or a combination of any of these (Gagner and Middlebrooks, 1977).

The question arises, what are the effects of extrinsic contingencies such as extrinsic reward, external evaluation, and requirement of performing helping acts on this apparently intrinsically motivated behavior? Do extrinsic contingencies enhance or diminish one's interest in and frequency of engaging in helping, altruistic, or prosocial behavior?

Since 1968 a heated area of discussion in psychology has been the effect of extrinsic rewards on intrinsic motivation. While the findings have been mixed, it can be said with virtual certainty that, under certain circumstances, extrinsic motivation may occur at the expense and diminishment of intrinsic motivation (Notz, 1975). While most of this research has been done in the laboratory under controlled conditions and with non-social tasks such as puzzle solving and game playing, it can be anticipated that extrinsic rewards would have a detrimental effect on a person's intrinsic interest in helping others. Batson and others (1978) conclude their study on the effect of extrin-

sic incentives for helping on perceived altruism by saying, "A person's kindness, it seems, cannot be bought. For when it is, the seller ceases to perceive the action sold to be motivated by kindness."

Related to, but distinguished from intrinsic motivation is the notion of continuing motivation (Maehr, 1976). Continuing motivation is the tendency to return to and continue working on tasks away from the instructional context in which they were initially confronted. This return is presumably occasioned by a continuing interest in the task and not by external pressure. Martin Maehr (1976) issues a challenge to educators to develop ways to increase continuing motivation. He contends that external evaluation has a negative effect on continuing motivation and on the development of a positive attraction to a particular task. There is a need to further study the specific conditions in which this effect happens. A major goal for educational research has been identified as determining more precisely the conditions under which external evaluation may have the effect of an extrinsic or an intrinsic motivator (Maehr, 1976). This obviously would have profound effects in the classroom and school where there is frequent use of evaluative procedures used as incentives. Csikszentmihalyi and Larson (1978) distinguish three ways by which schools motivate action. One is the extrinsic mechanisms of discipline and grades; another the means-ends relationship of school behavior to students' long term goals; and thirdly the immediate intrinsic satisfaction obtainable in different activities. Not enough is yet known as to how these factors interact in learning and development.

The present experiment attempts to draw together these several lines of research. It investigates in a school setting the effect of requiring helping behavior, evaluating helping behavior, and rewarding helping behavior on one's intrinsic motivation, continuing motivation, and frequency of involvement in helping others. It attempts to set down some guidelines for developing a program in a school setting for developing students' intrinsic motivation and continuing motivation for helping others.

In the experiment, a helping, altruistic, prosocial act is considered to be any act done at school and prescribed by the experimenter or decided on by the subject which results in a benefit for another. This might include donating, sharing, or helping of someone at school or in a school sponsored program (e.g. tutoring another student, bringing in a toy for a toy drive, volunteering to clean up after a basketball game).

The present investigation relates the notion of intrinsic motivation to competence and self-determination. It seems increases in feelings of personal control and competence will strengthen intrinsic motivation while decreases that happen under extrinsic contingencies will weaken intrinsic motivation. The phrase "personal control" is used as a synonym for perceived freedom, freedom to select and carry out behaviors as one chooses without interference or control by others. Continuing motivation is defined as the tendency to return to a task away from the instructional setting. In the present experiment, extrinsic reward means a reward external to the action rewarded. This reward is

determined by the choice of the subject from a list of possible options. The list of rewards was developed from recommendations of high school students and high school teachers. The rewards offered were material, distinguishing them from verbal reinforcement. By contingent is meant that the rewards were given only on the completion of a certain number of helping acts performed and the subject knew that the reward was given only under this circumstance. In addition to being extrinsic, contingent, and material, the rewards used in this experiment were exogenous. By exogenous is meant that there is no link between the reward and the helping behavior rewarded. The opposite of this would be endogenous when, for example, wages are given for work done. The rewards used were salient in that the subject was continually reminded of the type of reward that was chosen as well as how it was to be obtained.

In this experiment, external evaluation refers to a grading contingency where a grade of A/B/C/D/F is given for a certain frequency of performance of the target behavior. Requirement refers to an external contingency where the experimenter, an authority figure for the subjects, that is, their school principal, makes a demand and expresses an expectation that the subject perform at least one helping act at school every two weeks regardless of the subjects' desire to help.

Specifically, the present investigation systematically examines the following questions:

1. What is the effect of an extrinsic, material, salient,

contingent, exogenous reward on one's intrinsic interest, continuing motivation and frequency of performing helping behavior? Research (Gabarino, 1975; Kruglanski et al., 1971; Kruglanski, 1978; Lepper, 1974; Lepper and Greene, 1978; Ross, 1975) concerning the relationship between intrinsic and extrinsic motivation has focused on the material, contingent, salient, exogenous reward as being most detrimental to intrinsic motivation. Does this relationship hold true for rewarding helping behavior in a school setting?

2. What is the effect of an external grading contingency on a student's intrinsic interest, continuing interest and frequency of performing helping behavior? Research (Maehr and Stallings, 1972; Maehr, 1976; Salili, Maehr, Sorensen, Fyans, 1976) has shown that external grading procedures can have the effect of lessening people's general perception that they are the cause of their behavior and thereby affect one's continuing motivation to act. Does this hold true for grading helping behavior in a school setting? Are students less interested in engaging in helping behavior in the future?

3. Does the requiring of a student in a school setting to perform helping acts lessen that student's intrinsic interest, continuing interest, and frequency of performing helping behaviors? Research (Harris, 1972) seems to indicate that previous helping influences the likelihood of helping again. Is this finding affected by the prior helping act having been required? Does requiring the prior helping act lead to more instances of helping but at the expense of one's intrinsic interest in helping?

There is importance in attempting to answer these questions in that often in school contexts, extrinsic contingencies are used as a way of getting students to perform (Lepper and Dafoe, 1979), that is to say that extrinsic contingencies are used to motivate desirable school behavior. The present investigation attempts to explore the effect of this form of motivation on students' motivation and performance in the helping of others at school.

Condry (1977) and Condry and Chambers (1978) conjecture that a fully developed theory of motivation must encompass exploratory as well as incentive driven activity. To date, they indicate that when incentives are extrinsic to the task and situation, a "context" for action is created that is different than that obtained when exploration is proceeding on its own. In fact, if exploration is proceeding on its own and it is interrupted by extrinsic considerations, it may retard that exploratory process. He concludes that rather than being additive, the two types of motivation (extrinsic, intrinsic) interact negatively. This happens because the person moves from experiencing self as an origin of one's behavior to being a pawn controlled by extrinsic forces. Condry (1978) notes that the problem of the use of incentives in school is crucial and dangerous. He identifies the central problem, in a system of decontextualized education which we have today, to be motivation. When skills are learned "in context" the motivation for acquisition is "intrinsic," that is, a desire to explore and master the world. This is not so when learning is decontextualized. Schools, therefore, must face the research findings that extrinsic con-

tingencies undermine interest and lead to a superficial interaction with the task at hand. Schools must consider how to foster and develop students' level of intrinsic motivation.

If in a school context, teachers are concerned with increasing the frequency of their students' engaging in helping behaviors and developing in their students intrinsic interest and continuing interest in helping others, it would be helpful to know if the use of extrinsic contingencies often used in schools such as requirement, rewards, and external evaluation are additive or whether they have a negative influence. It may be that using extrinsic contingencies in a school situation will interact negatively and not only will students be less intrinsically interested in helping others, they will not help as much. This has important implications for educators concerned with the effects of schooling on students. Broudy (1977) contends that schools fail miserably in their replicative and applicative functions. In the former, the school input is recalled pretty much as learned. In the applicative use of schooling, one deduces a solution to a problem from the facts, rules, and principles one has learned. Despite the failures of schooling in this, Broudy suggests that school does serve an important function. School learning forms the knowledge with which we approach life. It provides students not with knowing that or knowing how so much as "knowing with." "Knowing with" operates by furnishing a context or a ground against which a particular situation is perceived, interpreted and judged. If this is so, it becomes very important to consider what the effects of extrinsic contingencies are on student

learning and performance. Perhaps in helping students to learn to help others, we are in fact lessening their interest and affecting the context with which they approach helping others.

Centuries ago, Plato emphasized that quality education attempts to train people to find "pleasure and pain in the right objects." We are still struggling in education to understand how this can best be done.

CHAPTER II

REVIEW OF THE LITERATURE

Four areas of research pertinent to this study are reviewed: the meaning and measurement of intrinsic motivation and continuing motivation, the effect of extrinsic reward on intrinsic motivation and performance, the effect of external evaluation on continuing motivation and performance, and the nature and determinants of helping, altruistic, prosocial behavior. The research in these four areas, while still embryonic and lacking in clear consensus on fundamental terms and concepts, has developed a rather solid foundation for understanding the notion of intrinsic motivation and the conditions under which extrinsic contingencies such as rewarding, evaluating, and requiring affect intrinsic motivation. Different authors have quite independently found a common theme in their separate lines of research identifying the hidden costs of rewards (Lepper and Greene, 1978). It becomes clear in reviewing this literature that we are embarking on a potential paradigm shift. No longer can one simply attend to the positive aspects of reward and extrinsic contingencies. At times and under certain circumstances the law of effect takes its toll on the intrinsic and continuing interest of the person being rewarded.

THE MEANING AND MEASUREMENT OF INTRINSIC MOTIVATION AND CONTINUING MOTIVATION

The notion of intrinsic motivation can be found in Woodworth (1918) in which he notes that an activity can provide its own drive.

Likewise, Nissen (1930) reported that rats experience exploration and the opportunity to explore as intrinsically rewarding activity. This led in the '40's and '50's to a number of authors naming drives to account for each of various activities as play, exploration, manipulation, and curiosity. This process of naming drives and motives was unfortunate in that this delays the thought and investigation required for genuine understanding (Hunt, 1965). Drives like exploratory drive (Montgomery, 1954), drive to avoid boredom (Myers and Miller, 1954), manipulation drive (Harlow, 1953), sensory drive (Isaac, 1962) drive for visual exploration (Butler, 1953), and the instinct to master (Hendrick, 1942) do not seem to be correlated with any non-nervous system deficit. To call these drives one would have to redefine drive in such a way as not to require tissue needs or deficits which provide a persistent stimulus to initiate consummatory behavior and reinforce the behavior through the reduction of the drive (White, 1959).

Another approach at understanding intrinsic motivation is one characterized as the optimal incongruity approach. This approach is best described by Hunt (1956). The central issue is the extent to which people will approach or avoid incongruous inputs or cognitions. While Festinger (1957) described intrinsically motivated behavior as behaviors which are motivated by the need to reduce dissonant cognitions, Hebb (1955) found that novel stimulation or incongruity is rewarding and pleasurable and produces approach and not avoidance behavior. Hunt (1956) established an optimal level of incongruity. Organisms need an optimal amount of psychological incongruity.

Organisms will be active in seeking out optimal stimulation when they experience a discrepancy between the actual amount and the optimal amount. Organisms will be active in attempting to reduce dissonant or incongruous cognitions.

A third approach attempting to define intrinsic motivation is an approach described as dissonance reduction (Festinger, 1957) or resolution of uncertainty (Kagan, 1972). Kagan believes that resolving uncertainty is one of the important classes of motives. He distinguishes incompatibility between two cognitions, a cognition and a behavior, and a cognition and an experience. Related to this approach there is a good deal of evidence indicating that after human beings have been faced for a considerable time with homogeneous, unchanging and therefore completely congruous circumstances, they actively seek the relative incongruity of new situations of almost any kind (Hunt, 1956). Explanations of intrinsic motivation to be comprehensive need to consider both the approach and avoidance of incongruity.

Recently Csikszentmihalyi (1975) talked of an "experience of flow" that is characterized by the merging of action and awareness; the centering of attention and the loss of ego or self-consciousness; the sense of control of oneself and the environment; coherent demands for action and unambiguous feedback from action; and finally, the fact that the purpose of the flow is to keep on flowing rather than to look for a goal or peak. In such a situation a person has a strong sense of control or personal causation. This experience of flow can be found in any situation providing the situation provides information to the

person that his or her actions are meeting a set of challenges in the environment (Csikszentmihalyi, 1978). Furthermore, Csikszentmihalyi (1978) states the activity must take place in a meaningful context. The activity should be structured so that the subject can increase or decrease the level of challenges being faced in order to match skills with the requirements for action. There should be clear criteria for performance. Csikszentmihalyi and Larson (1978) contend that the systematic structure of a school provides opportunities for both prosocial and antisocial behavior. Ideally learning should involve systematic involvement in sequences of challenges internalized by students. This will create the flow experience. Where such experiences are blocked or hindered in school, the only outlet for flow experiences is antisocial behavior.

The latest approach for understanding intrinsic motivation relates the notion to competence and self-determination. White (1959) posited a competence motivation or effectance motivation which is what directs exploration, manipulation, attention, perception, thought, and communication. Effectance motivation causes behaviors which allow a person to have feelings of efficacy. DeCharms (1968) proposed that man's primary motivation is to be effective in producing changes in his environment. Man desires to be the primary locus of causation for his behavior. He strives for personal causation. DeCharms hypothesized that when a man perceives his behavior as stemming from his own choice (sees self as origin) he will cherish that behavior and its results. When he perceives his behavior as stemming from external

forces (sees self as pawn) that behavior and its results will be devalued. Lawler (1969) has defined intrinsic motivation as the degree to which feelings of esteem, growth, and competence are expected to result from successful task performance. Deci (1975) contends that we are born with a basic and undifferentiated need for feeling competent and self-determining. He defines intrinsically motivated activities as those for which there is no apparent reward except the activity itself and the activity is enjoyed. Intrinsically motivated behaviors are those which are involved with the human need for being competent and self-determining. This innate intrinsic motivation differentiates into specific motives as a result of experience. When supported and encouraged the basic need seems to differentiate into motives for self-fulfillment, self-reliance, independence and achievement. If the child is not supported it differentiates more into needs for approval, acceptance, and conformity. Intrinsic motivation underlies an ongoing cyclical pattern in which people seek out and conquer challenges that are optimal for their capacities (Deci and Borac, 1978).

Having considered various approaches to understanding the notion of intrinsic motivation, it is important to look at the various ways intrinsic motivation has been measured. Among the measures used by various experimenters is the amount of time which subjects spent working on the target activity in a free choice situation where there were other things to do and where there was no extrinsic reward to be gained (Anderson et al., 1976; Deci, 1975; Farr, 1976; Kruglanski et al., 1971, 1972, 1973; Lepper, 1973; Lepper and Greene, 1978; Ross,

1975), subjects rating their commitment to engage in the activity at a later time (Amabile et al., 1976; Calder and Staw, 1975; Notz, 1976), and subjects' statements regarding the satisfaction of performing a certain task (Amabile et al., 1976; Arnold, 1976; Hamner, 1975; McMillian, 1977). Besides these objective performance measures and self report measures (perceived task interest or perceived task satisfaction or stated commitment to return to the task) Haywood and his colleagues (Haywood, 1971; Haywood and Switzky, in press) have developed a personality test for intrinsically motivated individuals. A recent measure called the Task Reaction Questionnaire (TRQ) was developed by Mayo (1976). This twenty-three item scale was developed especially to measure intrinsic motivation. It contains items pertaining to task liking, task interest, feelings of accomplishment, feelings of being challenged, feelings of using one's important abilities, etc. Mayo demonstrated that the scale has construct validity.

A notion distinguished from intrinsic motivation and yet one that may shed further light on the meaning of it is that of continuing motivation (Maehr, 1976). Continuing motivation is defined in the context of education and schooling as a tendency to return to and continue working on tasks away from the instructional context in which they were initially confronted. Return is occasioned by a continuing interest in the task and not by external pressure of some kind. While closely akin to intrinsic motivation and the Zeigarnik effect (Zeigarnik, 1927) defined as the need to complete tasks or to achieve closure, Maehr makes a point of distinguishing continuing motivation

(CM) seeing it not as a psychological construct but as an educational outcome. There are four considerations to keep in mind related to the construct. It is a return to a task or task area at a subsequent time. It happens in similar or varying circumstances. There is no visible external pressure to do so. There are other behavioral alternatives available.

Maehr (1976) utilizes a performance measure rather than a paper and pencil measure related to continuing motivation. The performance measure involves asking the subject for a formal commitment for engaging in the activity at a future time, observing the returning behavior in an open choice situation, if possible observing the person in another setting where the behavior could happen free of extrinsic control or demand.

In summary it can be said that both the meaning and measure of intrinsic motivation and continuing motivation are difficult to pin down. There is a great need to further operationalize the concepts of intrinsic and continuing motivation. This is supported by the discrepant findings in the literature on the effects of extrinsic rewards on intrinsic motivation when different indexes of intrinsic motivation have been used (McLoyd, 1979).

Clearly, intrinsic motivation encompasses an optimal arousal level which the organism seeks to maintain. It involves and relates to the concepts of competence and control and personal causation. It involves a balanced state of interaction between a person having the capacity to act (or skills) and a situation which optimally

challenges the person to act.

A current controversy has arisen questioning whether extrinsic and intrinsic motivation are additive or whether they interact challenging the point that any reward automatically produces better learning and performance (McKeachie, 1976). If a major factor in the intrinsic dimension is the desire for personal causation, then intrinsically motivating tasks are those in which the person feels that he or she is in control, that he or she originated the behavior as origin with concomitant feelings of free choice and commitment. The introduction of extrinsic rewards places the person in a dependent position relative to the source of reward (DeCharms, 1968).

THE EFFECTS OF EXTRINSIC REWARDS ON INTRINSIC MOTIVATION AND CONTINUING MOTIVATION

A major controversy exists concerning whether extrinsic rewards enhance intrinsic motivation, such that the variables act in an additive way, or whether extrinsic rewards decrease intrinsic motivation (that is, the variables interact).

Common sense and expectancy theory (Vroom, 1964) and the overriding influence of B.F. Skinner's work would predict that the variables act in an additive way. Some studies (Arnold, 1976; Farr, 1976; Hamner, 1975) have found extrinsic rewards increasing intrinsic motivation. Arnold concluded that when intrinsic motivation is high, extrinsic rewards either do not affect or they enhance intrinsic motivation. His experiment was done with Yale undergraduates in-

volved in playing a complex computer game. Farr (1976) found that introductory psychology students in the contingent pay condition volunteered to continue the experimental task more often than non-contingent pay condition subjects. This finding while not significant did not replicate the hypothesis that contingent rewards decrease intrinsic motivation. Hamner (1975) in his study of college undergraduates found results that tend to support the assumption made by expectancy theorists (Vroom, 1964) and reinforcement theorists that the effect of intrinsic and extrinsic reinforcements are additive.

While research findings on the effect of rewards are varied, it seems that, under certain conditions, intrinsic and extrinsic motivation have been found to be non-additive; the arousal of extrinsic motivation may occur at the expense of intrinsic motivation (McGraw, 1978; Notz, 1975). This is especially valid under two conditions: when the task is interesting enough for subjects that the offer of incentives is a superfluous source of motivation and when the solution to the task is open-ended enough that the steps leading to a solution are not immediately obvious (McGraw, 1978).

To understand this conclusion that there are clearly established detrimental effects of reward, it will be necessary to draw together a large number of studies that have recently been done. It will be necessary to answer several questions. Under what conditions will task extrinsic rewards have widespread and possibly undesirable effects? What effects? What theories have been elaborated to explain the findings? What criticisms about the studies make their conclu-

sions still tentative?

McCullers (1978) points to three traditional theoretical viewpoints which lay a foundation for expecting the adverse effect of rewards. He cites the Yerkes-Dodson Law which proposes that motivation should facilitate learning and performance only up to some optimal level. McCullers sees in this law an opening for expecting adverse effects in that rewards can be considered to provide a source of motivation. He cites Hull-Spence theory highlighting the relationship between E (reaction potential), H (habit strength) and K (incentive motivation) E = H + K. He notes that Hull-Spence theory predicts an enhancing effect of reward (K) on performance in simple tasks but a detrimental effect in complex tasks where K serves to increase the tendency to make errors. Finally he cites the research on contrast effects (Cox, 1975) and its prediction that a downshift in incentive magnitude should produce a negative contrast effect.

Developing from these initial theoretical hints, there exists a growing body of experimental data indicating that the introduction of external rewards like money (Deci, 1975) or prizes like tokens or food (Garbarino, 1975; Kruglanski et al., 1972; Lepper, 1974) or experimental credit (Weick, 1964) lead to a decline in intrinsic motivation.

From current literature it has been hypothesized that the interaction happens if the rewards are made contingent on performance and are understood to be contingent. Deci (1975) paid subjects (college students) for doing Soma puzzles. He chose this task after a pilot

study to determine what is intrinsically motivating to college students. He noted that subjects contingently rewarded for puzzle solving spent less time working on the puzzles in a free time, free choice period than did the non-contingent group or the control (no reward) group. Lepper (1974) found a group of nursery school children who expected a reward for drawing pictures with a magic marker to be less intrinsically motivated which he measured by their amount of time drawing pictrues in a free time, free choice situation following the rewarded period. This was significantly different than the non-expected reward or the no reward groups. The importance of salience of reward was considered in an experiment by Ross (1975) in which nursery school children were rewarded for playing with a drum. For some children the reward was put in front of them while playing, salient condition, for others they were merely told about the reward and still others received no reward. The group for whom the reward was salient showed a decrease in intrinsic motivation measured by the amount of time they played with the drum during a free time, free choice period. These experiments identified contingency, expectancy, and salience as conditions for the detrimental interaction.

In addition to the conditions of contingency, expectancy, and salience, some research (Arnold, 1976; Calder and Staw, 1975; Loveland and Olley, 1979; McLoyd, 1978) has attempted to explore the differential effects of extrinsic rewards on subjects who show high versus low initial interest in the same activity (intrinsic interest as a subject variable) or tasks chosen to be relatively interesting versus rela-

tively uninteresting (intrinsic interest as a task variable). The findings are discrepant. In Arnold's study (1976) extrinsic rewards do decrease intrinsic motivation but not for situations where the individual is highly motivated intrinsically. Contrary to Arnold's findings, Loveland and Olley (1979) found that the initial high interest children who received a reward lost interest when observed a week later, while the low interest children who received a reward gained interest. By seven weeks both groups returned to their original level of interest. This is similar to Calder and Staw (1975) who found that the introduction of an extrinsic monetary reward increased reported enjoyment for a low intrinsically motivating blank puzzle task, but decreased reported enjoyment for a high intrinsically motivating picture puzzle task.

Kruglanski et al. (1973) in a number of studies have shown that when money is intrinsic to a task, its presence enhances intrinsic motivation whereas when it is extrinsic to the task its presence lowers intrinsic motivation. This seems best understood in that when money is endogenous to a task it is not seen as a reward at all but is part of the ordinary expectations for that situation. Conscious that reward appears to have both facilitating and retarding effects, Kruglanski (1978) distinguished three ways whereby the relation between rewards and motivation can be conceptualized. The first he called "absolutist view," that is, the relation between reward and motivation is uniformly positive. The second he called "genericist," that is, some rewards are generically extrinsic (for example, money,

food, etc.) and others are generically intrinsic (for example, achievement, mastery, etc.). One leads to facilitation and the other to retardation of intrinsic motivation. The third he called, "relativist" whereby the effect of rewards on motivation is relative to the perceived endogeneity between the activity and the reward. His research emphasizes the importance of the distinction between endogenous and exogenous.

Deci (1975) and Anderson et al. (1976) found that positive verbal reinforcement did not decrease intrinsic motivation but served to increase it. In the Anderson study it was found that the control (no reward) group diminished most in intrinsic motivation because of an aversive situation where the experimenter paid no attention of any kind to the work of the children who were in the control group. It is important to note again that various conditions and contexts affect the results of rewards on intrinsic motivation.

McLoyd (1979), concerned that despite the wide variety of extrinsic rewards used by researchers in this area of intrinsic motivation studies, examined the effects of varying the individually determined value of the extrinsic reward. McLoyd found that both high and low value rewards decreased significantly children's interest in the high interest activity compared to no reward, but high, not low value rewards increased significantly children's interest in the low interest activity. McLoyd suggests that high value rewards for engaging in a low interest activity may be appropriate and beneficial. It is important to know both the subject's level of

interest in an activity and the value the subject ascribes to a reward to know the effect of that reward on interest.

Besides task characteristics, some researchers have studied the moderating effects of personal characteristics. To date these studies have not contributed much to knowing under what conditions extrinsic and intrinsic motivation interact negatively. Farr (1977) attempted to study the effect of locus of control and self esteem but the findings were not significant. Maehr and Stallings (1972) studied need for achievement and found that those subjects who were high in need for achievement volunteered more for difficult tasks when the evaluation was internal and more for easy tasks when the evaluation was external.

There is a need for further studying the task, situation, and personality variables that are operative. Among the dependent variables studied in this literature, one can distinguish reported interest in the task (Weick, 1964), persistence at or resumption of an activity (Amabile et al., 1976; Arnold, 1976; Deci, 1975; Kruglanski et al., 1971; Ross, 1975; Salili et al., 1976) or the quality of performance (Kruglanski et al., 1971; Weick, 1964) or even the process of learning (Garbarino, 1975) or the context of an independent, interpersonal situation (Garbarino, 1975).

In the majority of the studies researched, the dependent variable of primary importance was the degree of subsequent interest in the task shown by the subjects. Fewer studies explored the effect of extrinsic rewards on the quality of performance on the task.

McGraw and McCullers (1974) reported a number of studies with children that found tangible rewards given on a trial by trial basis lead to more errors and less learning when the performance of rewarded subjects is compared to that of nonrewarded subjects.

There is evidence that extrinsic incentive conditions lead subjects to different strategic activities in a learning or problem solving situation than do conditions that encourage exploration without the offer of a task extrinsic incentive as a reward (Condry, 1977). Condry and Chambers (1978) suggest that rewards or incentives have different effects depending on the degree of stability of the skill under study and they keep their attention focused on acquisition rather than performance. They contend that rewards create a context that elicits a different pattern of interaction with the task implying that rewards are a poor way to motivate even uninterested children.

Garbarino's study (1975) is especially unique. He hypothesized that the tutor in the nonreward condition would be more positive in her (subjects were all female) response to her tutee, more efficient, and less intrusive in her teaching style. He also predicted that the tutee would learn more when her tutor was in the nonreward condition. As Condry (1977) indicates this study greatly extends the range of effects that extrinsic rewards affect.

Lepper and Greene (1978) identify three differences in the individual's engagement in an activity under conditions of intrinsic or extrinsic motivation. First, the individual's perceived goal may influence the manner in which he or she approaches the activity.

Under intrinsic motivation, an individual establishes a level at which to approach and be involved in an activity. Under extrinsic motivation a general "bias" toward engagement in the task on a level likely to insure attainment of the extrinsic goal takes place. Second, under intrinsic motivation there is no necessity to please another. Third, under extrinsic motivation, a person tends to stop when he has achieved the reward. Similarly, Deci and Borac (1978) report that extrinsically motivated subjects chose relatively easy tasks though not the easiest while non-rewarded subjects chose relatively difficult tasks to perform.

Many authors have attempted to explain the findings from these studies from differing theoretical viewpoints. Staw (1975) posits the notion of under and over sufficient justification which he draws out of the self-perception theory of Bem (1967). Staw suggests that shifts in intrinsic motivation will only be observed at the extremes of under and over sufficient justification. He argues that in such situations the felt need to resolve attributional instability is sufficiently strong to result in changes in levels of intrinsic motivation. Thus, when a person who is highly intrinsically motivated to perform an activity is given some extrinsic reward for performing the activity, the individual will cognitively re-evaluate the situation, leading to a reduction in the felt importance of the intrinsic rewards. The downward shift will occur in the level of intrinsic motivation since the extrinsic aspects of the situation are usually more clear and salient and the intrinsic aspects are easier to distort.

Lepper and Greene (1978) suggest an information processing model in which reward may reduce intrinsic motivation both by directing attention away from important task subgoals, thereby resulting in poor task performance, and by altering an individual's perception of the purpose or goal of his behavior.

Deci (1975) has developed a cognitive evaluation theory from attribution theory to explain the findings. Cognitive Evaluation Theory suggests two processes by which intrinsic motivation is affected by external rewards. Individuals' perceived locus of causality may be changed. Intrinsic motivation may be changed through a shift in feelings of competence and self-determination. There are three major propositions that comprise Cognitive Evaluation Theory. The first states that a person's perception of why he is doing something determines his level of intrinsic motivation. When a person is intrinsically motivated the perceived locus of causality (DeCharms, 1968; Heider, 1958) of that behavior is within himself. Perceived locus shifts from self to the environment when a reward is contingent. Proposition two says that intrinsic motivation is affected by a change in feelings of competence and self-determination. Verbal reinforcement increases intrinsic motivation because it increases a person's sense of competence. Proposition three states that every reward has a controlling and an informational aspect. This provides a person with information about his competence and self-determination. If the controlling aspect is more salient it will initiate a change in perceived locus of causality. If the informational aspect is more salient the

change in feelings of competence and self-determination process will be encouraged.

Farr (1976, 1977) and Scott (1976) have raised serious question about both the findings and the interpretation of the findings that are summarized above. Scott (1976), who approaches the situation with a reinforcement background, criticizes Deci's use of parametric tests. He contends that Deci's data does not meet the assumption of normality and reexamines the data from Deci using non-parametric tests. The findings were not significant. Scott further contends that reinforcement theory is still the best and most parsimonious explanation. There is no need to resort to elaboration of a theory of intrinsic motivation. Farr (1977) found no support for the attributional process hypothesized by Deci as the psychological mechanism causing the decrease in observed intrinsic motivation. To date no empirical support for the attribution hypothesis has been found even in the research which has demonstrated an apparent decrease in intrinsic motivation in conditions of contingent pay (Farr, 1977).

In summary, we are faced with two areas of research, one emphasizing the law of effect and the other warning of the hidden costs of reward. Lepper and Greene (1978) acknowledge that each literature is characterized "by a considerable degree of internal consistency. Extrapolation beyond the particular contexts in which each paradigm has received support depends upon assumptions and speculations that cannot be directly verified from the data at hand." All that can be stated at this time is that the appearance of both positive and nega-

tive effects of reward programs will depend on the specific manner and context of their application to particular programs, subjects, and situations. More study is needed out of which deeper understanding of the cognitive processes and attentional mechanism will develop. At present it seems that the active, constructive, selective, and directive features of cognitive processes underlie the different effects found in the two areas of research.

THE EFFECT OF EXTERNAL EVALUATION ON CONTINUING MOTIVATION AND PERFORMANCE.

The importance of the research relating extrinsic rewards to subsequent interest, continuing interest, quality of performance, the process of learning, and the context of an interdependent, interpersonal situation has application in the field of education.

Parents, teachers, and psychologists have often worried about the effects of extrinsic motivation including grades or behavior reports, and the requiring of certain behavior (Batson et al., 1978). Two lines of research support this worry. The first is that research cited above in which the addition of extrinsic rewards reduces intrinsic and continuing motivation. The second is Maehr and Stallings' work (1972, 1976) on the effects of evaluation on continuing motivation. With the large number of programs designed to promote desirable behavior by use of operant conditioning principles it seems important to consider this line of research which challenges the desirability of making rewards contingent upon behavior if you want to

develop continuing motivation in students.

Similar to Maehr and Stallings, Condry and Chambers (1978) examined what difficulty level of tasks subjects chose to do under different motivational contexts. They found that those who were paid for the problems they did, did significantly easier ones than those who solved the problems without the anticipation of reward. Evaluation and extrinsic contingencies distract a person from attending to the task at hand. In that sense it hinders the acquisition of basic skills. External incentives create a performance context and a concomitant narrowing of attention to specific outcomes (Condry and Chambers, 1978).

A variety of studies on the performance of achievement oriented subjects in clearly externally-evaluative conditions show heightened performance (Atkinson and Feather, 1966; Maehr and Sjogren, 1971). However, this appears to happen at the expense of continuing motivation (Maehr and Stallings, 1972).

In summary, while there are only few studies to cite and the research is still scanty, external evaluation appears to affect behavior and continuing motivation in a way similar to other extrinsic contingencies such as reward and requirement. Especially interesting is the study cited reporting that in situations of external evaluation subjects choose to perform easier tasks to assure success. Perhaps giving grades and encouraging students to accept challenges work at cross purposes.

THE NATURE AND DETERMINANTS OF HELPING, ALTRUISTIC, OR PROSOCIAL BEHAVIOR.

The nature and determinants of helping behavior have been studied at length during the past ten years. While there appear to be a large number of studies exploring the relationship of situational factors and helping, there are relatively few studies that have investigated the consequences of helping on S's subsequent responses over time (Moss and Page, 1972; Batson et al., 1978). In other studies, both normal (Brown, 1975) and emotionally disturbed children (Kauffman, Epstein, and Chlebnikow, 1977) showed changes in their level of donating according to the relative cost to themselves. Change to a lower cost schedule typically resulted in the child's donation of a greater proportion of his earnings. Change to a higher cost schedule resulted in fewer donations.

Most studies consider one or two helping acts in isolation which raises question as to the external validity of the experiment (Bar-Tal, 1976). Generalizations to the determinants of various forms of helping behavior other than those which have been employed in the particular experiment may well be fallacious.

In the literature a frequent explanation of adult and child helping behavior is that most people learn a general standard or norm which dictates that one should help another in need. This is called the "social responsibility norm" (Berkowitz and Daniels, 1964). This appears to be learned over time. The strongest influence in learning seems to be the effect of a prosocial model (Midlarsky and Bryan,

1972; Gagne and Middlebrooks, 1977). Not only do models influence altruistic behavior, they also determine its direction and magnitude (Bryan, 1972; Liebert and Fernandez, 1970; Gagne and Middlebrooks, 1977). Research (Gagne and Middlebrooks, 1977) indicates a stronger effect for modeling and a weaker effect for reinforcement and exhortations. The effectiveness of the model will depend on the observer's attention (Bandura, 1966), the degree to which the observer codes the response (Melton, A.W. and Martin, E., 1972), the consequences of the response to the model (Baer and Sherman, 1964; Baer, et al., 1967), and on the observer's recall of the response (Thomson and Tulving, 1970).

Little or no work has been done to date concerning the nature and channels by which society attempts to develop the helping person especially through the schools. While there appears a multitude of formal organizations assuming the role of character educators, studies of their effectiveness in the training of helping behavior have not been done (Bryan, 1972). The role of the school in developing helping behavior needs to be further explored. Gagne and Middlebrooks (1977) in a review of the literature conclude that the implication of studies for encouraging generosity in the schools is that for young children, models should be made available. This can be done directly by the teacher or indirectly as in stories or television. One research finding that they identified as important in encouraging generosity is that a selfish model who praises generosity in a child will decrease the probability of generous behavior. Teachers need to be

made conscious of how critical their actions are to children. While studies (Bryan and London, 1970; Rosenhan and White, 1967; Bryan and Walbeh, 1970; Bryan, 1971; Harris, 1970) emphasize the importance of modeling, further field experiments are necessary to verify the permanence and generalization of helping responses learned through observation and/or reinforcement.

Several studies (Batson et al., 1978; Fischer, 1963; Moss and Page, 1972; Garbarino, 1976) have explored the relationship between material reinforcement and helping behavior. Material reinforcement seemed to effect an increase in helping behavior in some studies. Moss and Page (1972) indicate that although their experiment was conducted with a reinforcement model in mind, it is open to other interpretations and that the positive results of the reward on helping behavior may not have been the effect of reinforcement but that S's were responding to successful (versus failing) social experiences. Batson et al. (1978) found that when offered payment for helping, subjects perceived themselves to be relatively less altruistic. They contend that extrinsic incentives for helping undermine one's perception of self as altruistic.

There is some evidence that helping behavior increases following a successful experience (Berkowitz and Connor, 1966; Isen, 1970). Social reinforcement seems to have an effect on the frequency of helping. Several experiments (Bryan et al., 1971; Doland and Adelberg, 1967; Fischer, 1963; Midlarsky et al., 1973) have shown that social reinforcement in the form of praise and acknowledgement is an

important factor in inducing sharing behavior. Several theorists (Aronfreed, 1968; Rosenhan, 1973) make a point that reinforcement leads to the acquisition of a self reward mechanism which explains the fact that children do maintain certain forms of conduct without expectation of direct external reinforcement.

There are no studies that specifically explore the relationship between extrinsic reward, external evaluation, and requirement on intrinsic motivation or continuing motivation to help others. Kruglanski (1978) reports on some unpublished research by Vardah Wiesiettier of Tel-Aviv University in which subjects were presented with twelve actions each joined with an altruistic goal presented a second time with an egoistic goal, for example, driving a friend to the airport opposed to driving someone to the airport for pay. Subjects rated the perceived degree to which the actor enjoyed the behavior and was performing it freely. On the average, actions coupled with altruistic goals were rated as more enjoyable and as accompanied by a greater freedom. Rosenhan (1969) has reported that "enforced rehearsal" of charitable behavior, previously displayed by a model under direct adult surveillance was effective in radically increasing "donations" during the surveillance period.

In summary, while it seems established that models affect the development and acquisition of helping behavior, there is still confusion on the effect of extrinsic contingencies on frequency and interest in helping others. Prosocial behavior, helping, or altruism are important behaviors in human community. It is critical that society and its primary institutions of school and family explore in greater depth the

facilitating and retarding influences of extrinsic contingencies on helping behavior.

RECAPITULATION

From the literature, it appears that prosocial behavior is often an intrinsically motivated behavior. Some define prosocial behavior as that done without the presence of direct external rewards. Prosocial behavior develops with age and perhaps as a result of direct reinforcement though more clearly through the presence and influence of prosocial models.

From the literature it can be predicted that under certain circumstances this intrinsic motivation to help can be negatively affected with the introduction of extrinsic, material, contingent, exogenous, salient rewards. When these rewards set up a different context for the actor and confuse the identity of the self as the origin of the behavior, they will have a detrimental effect. Likewise, external evaluation has been shown to interfere with a person's continuing motivation to perform. Were helping behavior to be learned in a situation where external evaluation was used it could be anticipated that this would not only diminish a student's continuing motivation to help outside of the evaluation situation but also the frequency of his engaging in helping others. Likewise, requiring involvement in helping others because of its extrinsic nature can be expected to affect intrinsic motivation and continuing motivation negatively.

The effect of extrinsic contingencies on helping behavior is an unexplored context in which to further study the facilitating and

retarding effects of reward, evaluation, and requirement. Lepper and Dafoe (1979) emphasize the need to choose an appropriate paradigm for varying contexts. They conclude that "if children in a particular class vary in their initial values, interests, and abilities, an identical program will be likely to have very different costs and benefits for different individuals." Knowing this the challenge of the literature just reviewed is to further specify and identify the factors in various contexts wherein reward functions differently. These factors at the present time appear to be cognitive in nature and are tied into one's attribution of both the activity and the reward. The same activity can be seen as a game or a chore. The same reward can be seen as a bribe, a bonus, or a fair remuneration (Lepper and Greene, 1978). Clearly there are both facilitating and retarding results to the use of extrinsic contingencies.

CHAPTER III

METHOD

The following null hypotheses were tested:

I. There will be no significant difference in the intrinsic motivation to help others (measured by Mayo's Task Reaction Questionnaire) between students required to help and students invited to help others.

II. There will be no significant difference in the continuing motivation to help (measured by Maehr's Continuing Motivation Scale) between students required to help and students invited to help others.

III. There will be no significant difference in the frequency of helping behaviors performed by students required to help and those invited to engage in helping others (measured by a self report frequency measure).

IV. There will be no significant difference in the intrinsic motivation to help others between students given extrinsic, material, contingent, exogenous, salient rewards for helping and students not rewarded for helping. (Intrinsic motivation is measured by Mayo's Task Reaction Questionnaire.)

V. There will not be a significant difference in the continuing motivation to help (measured by Maehr's Continuing Motivation Scale) for students given an extrinsic, material, contingent, exogenous, salient reward and students not rewarded for helping others.

VI. There will be no significant difference in the frequency of helping behaviors performed (measured by a self report frequency measure) by students given an extrinsic, material, contingent, exogenous, salient reward and students not rewarded for helping others.

VII. There will be no significant difference in the intrinsic motivation to help others (measured by Mayo's Task Reaction Questionnaire) between students externally evaluated with grades for helping and students not evaluated with grades for helping others.

VIII. There will be no significant difference in the continuing motivation to help others (measured by Maehr's Continuing Motivation Scale) between students externally evaluated with grades for helping and students not evaluated with grades.

IX. There will be no significant difference in the frequency of helping behaviors performed (measured by a self report frequency measure) between students externally evaluated with grades for helping and students not evaluated with grades for helping others.

X. There will be no significant differences in the dependent variables (intrinsic motivation, continuing motivation, and frequency of helping others) based on subjects' year in high school.

XI. There will be no significant difference in the difficulty of helping acts performed by subjects given rewards for helping and subjects not rewarded.

XII. There will be no significant differences in the difficulty of helping acts performed by subjects graded for helping and subjects not graded.

SUBJECTS

One hundred and ninety two boys (ninety six high school freshmen and ninety six high school juniors) were randomly selected from an all boys urban, Catholic, seminary high school of seven hundred and thirty-five students. All of the students in the school were recommended to the school as having potential and openness to being priests in the Catholic Church. Table 1 presents a numerical description of the subjects according to age, race, and socio-economic background (determined by parents report of assets available through the school). It is interesting to note that the subjects were primarily from a working or lower middle class socio-economic background. They were representative of the school population which draws students from a large urban setting. The remainder of the freshmen and junior classes not randomly selected as subjects for this experiment were involved in a concurrent project in which they were seen by the experimenter and asked to keep track

Table 1. A Numerical Description of Subjects According to Age, Race, and Socio-economic Background

Age	Number of Subjects
Fourteen	52
Fifteen	42
Sixteen	61
Seventeen	35
Eighteen	2
Race	
Afro-American	47
Hispanic	14
Other	131
Socio-Economic Background (Based on Family Income and Residence)	
Lower Social Economic Status	30
Lower Middle	80
Middle Middle	55
Upper Middle	27
Upper	0

of the number of times they prayed at school. This was done so that neither these students would feel left out nor the subjects in the experiment feel that they were being asked to do more than their classmates and thereby resent their involvement in the experiment and affect the study's results.

Experimental subjects were randomly assigned to one of eight groups assuring that there were twenty four students (twelve freshmen and twelve juniors) in each group. The groups were randomly assigned to one of eight treatments: Required to help but neither rewarded nor evaluated; Required to help, rewarded, but not evaluated; Required to help, not rewarded, but evaluated; Required to help, rewarded, and evaluated for helping; Invited to help, not rewarded nor evaluated; Invited to help, rewarded, but not evaluated; Invited to help, not rewarded, but evaluated for helping; Invited to help, rewarded, and evaluated for helping.

PROCEDURE

Each of the subjects in the Helping Others Project was interviewed individually and face to face by the experimenter, the school's principal. They were told in the interview that they would be taking part in an eight week program called, "Exploring Directions for the Seminary of the '80's." A sheet of directions was given to the subject depending on the treatment group to which he had been randomly assigned. The experimenter carefully went over the sheet with each of the subjects. All were told:

In order to get good ideas, you have to try many different possibilities. Since we are looking for some good ideas for our seminary in the '80's, you and your classmates are being asked to be involved in many different projects as we try to find out which programs are best for our students.

You are being asked to be part of the "Helping Others Program." Understand that other students will be in other programs or in this program but in a different way than you are involved. Don't let this bother you. Next year other programs will be happening and you may be involved in a different way at that time, if you want.

Thanks for taking part. Pay close attention to the following directions:

Following this core message, the text of the direction sheet varied according to the particular experimental group.

THOSE REQUIRED TO HELP

One important part of a seminary high school is students helping other people. Students coming here are required to involve themselves in helping others. By being in this program of helping others, you are expected to help. This is a requirement of the seminary. This is something expected of you.

You will be given a list of helping opportunities that can be done at school. A new list will come out every two weeks for the next eight weeks. YOU WILL BE EXPECTED TO ENGAGE IN AT LEAST ONE OF THESE HELPING ACTIVITIES DURING EACH TWO WEEK PERIOD, MORE IF YOU WANT. YOU WILL KEEP TRACK OF THE NUMBER AND TYPES OF HELPING ACTS YOU ENGAGE IN. Be careful and honest in keeping track of the number and types of helping acts you engage in.

THOSE NOT REQUIRED TO HELP

One important part of a seminary high school is students helping other people. Students coming here are invited to involve themselves in helping others. By being in this program of helping others, you are being invited to help others here at school.

You will be given a list of helping opportunities that can be done at school. A new list will come out every two weeks for the next eight weeks. YOU ARE INVITED TO ENGAGE IN ANY OF THESE ACTIVITIES. THERE IS NO OBLIGATION. YOU NEED NOT DO ANY OF THESE HELPING ACTS. YOU WILL KEEP TRACK OF THE ACTIVITIES YOU TAKE PART IN BY MARKING THE SHEET YOU ARE GIVEN. Be careful and honest in keeping track of the number and types of helping acts you engage in.

Remember you are required to do at least one helping activity every two weeks. You will be asked to sign the sheet verifying that what you have marked is true. Be honest in reporting what you have done.

Remember it is entirely up to you whether you help or not. You will be asked to sign the sheet verifying that what you have marked is true. Be honest in reporting what you have done.

In addition to the comment to either the required or invited subjects, those assigned to the reward group were told:

For every helping activity you do over and above the one time you are required to help you will receive five points and at the end of the two weeks your points will be totalled. If you have thirty five points or more you will be given the reward of your choice for that two week period. If you have less than thirty five points you will not receive that reward. You will be given every reward you earn over the several two week periods before the end of the year. You can earn as many as four or as few as none depending on how many times you help over and above the one time you are required to help.

For every helping activity you do you will receive five points and at the end of the two weeks your points will be totalled. If you have thirty five points or more you will be given the reward of your choice for that two week period. If you have less than thirty five points you will not receive that reward. You will be given every reward you earn over the several two week periods before the end of the year. You can earn as many as four or as few as none depending on how many times you help during each two week period.

In addition to the comment to either the required or invited subjects, those assigned to the external evaluation group were told:

Because helping others is at the heart of what we are about, you will be graded for your participation in this program of helping others. Just as you are graded in your other courses, you will be given an A-B-C-D-F for how many times you help others over and above the

Because helping others is at the heart of what we are about, you will be graded for your participation in this program of helping others. Just as you are graded in your other courses, you will be given an A-B-C-D-F for how many times you help others. If you do not help

one time you are expected to help. If you do not help others at school at all you will receive an F, if you help once a D, if twice a C, if three times a B, and if four or more times above the one time you must help an A. Your grade at the end of the program will be an average of the four grades you received during the program. While this grade will not appear on your report card, a letter will be sent home at the end of the semester telling your parents how you have done in this program.

others at school at all you will receive an F, if you help once a D, if twice a C, if three times a B, and if four times or more an A. Your grade at the end of the program will be a composite of the four grades you received during the program. While this grade will not appear on your report card, a letter will be sent home at the end of the semester telling your parents how you have done in this program.

After the directions were read to the student and he was given a copy for his reference, the student received the first helping others sheet. At this time, too, the "reward condition" subjects were given a copy of the first reward choice sheet. The options on the reward sheet were drawn up after a random selection of one hundred high school students (not subjects in this experiment but students from the same school) and fifty high school teachers were asked for suggestions of school rewards that high school students would value. The reward choice sheet was the same for the first three two-week periods. In the final two week period of the experiment a new form of the reward sheet was used because this period ended toward the end of the school year and the experimenter was concerned that some rewards on the original reward choice sheet (e.g. period off) might be seen as unattractive in the final week before semester exams (see Appendix A).

The procedure during the four two-week periods can best be understood by referring to Table 2.

Table 2. Phases of Helping Others Experiment

PHASE ONE: Steps Prior to Beginning Experiment

1. A sample of one hundred students and fifty faculty were polled to determine school rewards valued by students and helping opportunities possible at school.
2. Reward Choice Sheets were drawn up. Sheet I for use in the first three two-week periods and Sheet II for the final two week period of the experiment.
3. Helping Others Sheets were drawn up. Sheet I for the first two week period, Sheet II for the second and third two week period, and Sheet III for the final two week period of the experiment.
4. Each of the one hundred and ninety-two subjects was interviewed individually and face-to-face by the experimenter and given a sheet describing their involvement in the Helping Others Program. (At this time freshmen and juniors not randomly selected for involvement in the experiment were interviewed and told they would be involved in a Prayer Program structured in a way similar to the Helping Others Program.)
5. Reward condition subjects were given Reward Choice Sheet I on which they chose the reward they would work for in the first two week period.

PHASE TWO: First Two Week Period of the Experiment

Beginning:

1. Helping Others Sheet I was given out in homeroom.

During:

2. Subjects were reminded in their religion class six times during the two weeks of the Helping Others and Prayer Programs.
3. Subjects were interviewed individually and face-to-face by the experimenter and reminded of the particular conditions with which they were involved in the project. At this time questions were answered and any confusions were clarified.

Table 2 Continued

4. Reward condition subjects were asked what reward they had chosen in order to determine how conscious they were of the reward they had picked two weeks before. They were told whether they had earned the reward. If they had arrangements were made for them to get the reward. They were given Reward Choice Sheet I again in order to pick the reward they would work for in the second two week period.

5. Helping Others Sheet I was collected in homeroom.

PHASE THREE: Second Two Week Period of the Experiment

Beginning:

1. Helping Others Sheet II for second two week period was given out in homeroom.

During:

2. Subjects were reminded in their religion class six times during the two weeks of the Helping Others and Prayer Programs.

End:

3. Subjects were interviewed individually and face-to-face by the experimenter and reminded of the particular conditions with which they were involved in the project. At this time questions were answered and any confusions were clarified. (At this time freshmen and juniors not randomly selected were reminded about the Prayer Program.)

4. Reward condition subjects were asked what reward they had chosen in order to determine how conscious they were of the reward they had picked two weeks before. They were told whether they had earned the reward. If they had arrangements were made for them to get the reward. They were given Reward Choice Sheet I again in order to pick the reward they would work for in the third two week period.

5. Helping Others Sheet II for the second two week period was collected in homeroom.

Table 2 Continued

PHASE FOUR: Third Two Week Period of the Experiment

Beginning:

1. Helping Others Sheet II for the third two week period was given out in homeroom.

During:

2. Subjects were reminded in their Religion class six times during the two weeks of the Helping Others and Prayer Program.

End:

3. Subjects were interviewed individually and face-to-face by the experimenter and reminded of the particular conditions with which they were involved in the project. At this time questions were answered and any confusions were clarified. (At this time freshmen and juniors not randomly selected were reminded about the Prayer Program).

4. Reward condition subjects were asked what reward they had chosen in order to determine how conscious they were of the reward they had picked two weeks before. They were told whether they had earned the reward. If they had arrangements were made for them to get the reward. They were given Reward Choice Sheet II in order to pick the reward they would work for in the fourth two week period.

5. Helping Others Sheet II for the third two week period was collected in homeroom. Students who forgot sheet were reminded until it was turned in.

PHASE FIVE:

Beginning:

1. Helping Others Sheet III for the final two week period was given out in homeroom.

During:

2. Subjects were reminded in their religion class six times during the two weeks of the Helping Others and Prayer Program.

Table 2 Continued

End:

3. Arrangements were made for subjects who earned reward to receive their reward.

4. Helping Others Sheet III for the final two week period was collected in homeroom.

PHASE SIX: After the experiment

1. Subjects were given the Continuing Motivation Scale (Maehr, 1976) to fill out (see Table 3).

2. Subjects were given the Task Reaction Questionnaire (Mayo, 1977) to fill out (see Appendix C).

3. Subjects were given the Experiment Questionnaire to fill out (see Appendix D).

4. A sample of subjects (N=30) were asked to rate each of the helping opportunities as easy, hard, very hard for a high school student to perform. A weighted helping score was established based on one for each easy helping act, two for each hard, and three for each very hard helping activity performed. (Among the forty-one possible helping activities on the Helping Others Sheets I, II, III, twenty were identified as easy, twenty as hard, and one as very hard for a high school student to accomplish.)

5. The experimenter obtained the previously gathered data on each subject including Otis-Lennon I.Q. score; S-Theme Score, Social Service, Religious Activity, Teaching, Introversion/Extroversion Scores from the Strong-Campbell Interest Inventory; and the score on Mehrabian's Questionnaire Measure of Individual Differences in Achieving Tendency (1978).

Students received the helping others forms in their homerooms. They were also collected in the homeroom. The helping others form (see Appendix B) had the student's name typed on it and along the side a description of how they were involved in this program. There were three different forms (the form in the second and third two week periods was identical) to offer the student some variety of possible helping opportunities. On the sheets subjects were invited to add other helping activities they did at school that were not listed on the sheet or to add ways that they help at home. Subjects were reminded in class about the project. This was done three days a week throughout the project. The teacher read a standard statement that changed each day. The main message of each comment was to remind the subjects to keep track of each time they helped at school and to be honest in what they were recording on their sheet. Subjects were merely asked to sign the sheet when they turned it in and to declare that they provided honest information to the experimenter. After each two week period, the experimenter again saw each of the subjects individually and face to face to remind them of the program and of the way that they were involved in the program. It was considered important that the experimenter see each of the subjects and not just the "reward condition" subjects so one group would not be receiving more of the experimenter's attention. During these meetings, subjects in the reward condition were either given their reward or told that they had fallen short of the number of times they needed to help. At this time, subjects were invited to ask questions about the program. If any subject commented

that some classmates were being rewarded while he was not (N=10), he was asked how he felt about that. He was also told that next year there would be other programs and he could be involved in a different way, if he wanted. Subjects required to help at least once in the two weeks were reminded of their obligation. Subjects evaluated for the number of times they helped each two weeks were reminded that they would be graded for their part in the program. The experimenter saw each of the subjects four times during the experiment.

At the end of the program, students were asked to fill out a formal commitment form containing three sequentially and hierarchically ordered items. A first item asked them to indicate (no, uncertain, yes) their willingness to participate in helping others in the future. If subjects indicated such a willingness, they were asked to respond to a second question asking them to state (no, uncertain, yes) whether they would do this on their own time. If their response was yes, subjects then were asked to indicate a specific time and write down their name. The questions were organized as a Guttman scale and scored as outlined in Table 3 (Maehr, 1976). This constituted a measure of continuing motivation to engage in helping behaviors in the future.

At the end of the semester, students were asked to fill out the Task Reaction Questionnaire (Mayo, 1976) (see Appendix C). This twenty-three item scale was developed especially to measure intrinsic motivation. The scale was developed over three phases. Phase one was the development of a psychometrically sound questionnaire to measure intrinsic motivation. In attempting to do this, Mayo initially defined the area of content from which items could be generated for the original

Table 3. Description of Procedure for Scoring Continuing Motivation Scale

Item I: General Willingness	Item II: Willingness to Perform on Own Time	Item III: Indicating Time and Name	Score Given
No			1
Uncertain			2
Yes	No		3
Yes	Uncertain		4
Yes	Yes	Left Blank	5
Yes	Yes	Completed	6

pool. Then Mayo sampled different contents which comprise the construct of intrinsic motivation from all known alternative theoretical viewpoints. Having developed and tested the various item pools, Mayo tested the instrument's reliability using Cronbach's coefficient alpha. The value was .93. The scale was shown to be relatively free of social desirability response set. In phase two, Mayo showed the value of his instrument in being able to discriminate changes in intrinsic motivation. Thus phase two showed the utility of the intrinsic motivation scale in the measurement of experimental effects. In phase three Mayo found support for Deci's (1975) contention that financial incentives have a negative impact on intrinsic motivation. To make sense to the subjects of this experiment, the word "puzzle" was replaced by the phrase "helping others at school." This was the measure of intrinsic motivation.

The frequency of engaging in helping behaviors was tallied every two weeks and totalled at the end of the experiment. Students were not told of the quantity of helping acts engaged in. The first helping act every two week period performed by the required groups was not counted in that this was demanded. Each time an activity was marked it was counted, for example, four checks next to picking up litter were counted as four. Any helping activities added to the sheet by the subject were counted if they were done at school.

A questionnaire was given out at the end of the study checking on the subject's knowledge of the conditions under which he was involved in the study. The questionnaire (see Appendix D) also asked of the "reward condition" subjects the value (bad, poor, okay, good, excellent) of the rewards and of the "no-reward condition" subjects how they felt (angry,

disappointed, didn't bother, just as happy) about not being rewarded. Finally the questionnaire inquired of the subject's awareness of his own and others' honesty throughout the experiment, a random sample of subjects (N=30) were asked to rate each of the helping opportunities as easy, hard, very hard for a student to perform. From this a weighted helping score was determined. Easy helping acts were counted as one, hard helping acts were counted two, and very hard helping acts were counted three. This was used to compare the kinds of helping opportunities engaged in by the rewarded and non-rewarded groups.

For each subject participating in the experiment, a measure of I.Q. (Otis-Lennon), a measure of interest in a career involving people (Strong-Campbell Interest Inventory), and a measure of need for achievement (Mehrabian's Questionnaire Measure of Individual Differences in Achieving Tendency, 1978) was taken.

DESIGN AND STATISTICAL ANALYSES

A four way factorial analysis of variance (2x2x2x2) was done in which levels of expectation (required and invited) were partitioned with level of reward (reward and no-reward) and with level of external evaluation (grade and no-grade) and year in high school (freshmen and junior). The four partitioned variables are the independent variables of the experiment. The four major dependent variables were the frequencies of helping measured by a self report frequency measure, the weighted frequencies of helping, the scores on the measure of continuing motivation, and the scores on the measure of continuing motivation, and the scores on the Task Reaction Questionnaire (see Table 4).

Table 4. Summary of Analytic Paradigm Describing the Four Way Analysis of Variance for Frequency of Helping, for Intrinsic Motivation, for Continuing Motivation, and for Difficulty of Helping Acts Performed

		REWARD		NO REWARD	
		GRADES GIVEN	NO GRADES GIVEN	GRADES GIVEN	NO GRADES GIVEN
REQUIRED TO HELP	FRESHMEN				
	JUNIORS				
INVITED TO HELP	FRESHMEN				
	JUNIORS				

Independent Variables: Reward/No Reward
Grades/No Grades Given
Freshmen/Juniors
Required to help/Invited to help

Table 4 continued

Dependent Variables:	Frequency of helping at school (measured by self report frequency measure)
	Intrinsic Motivation (measured by Mayo's Task Reaction Questionnaire)
	Continuing Motivation (measured by Maehr's scale)
	Difficulty of helping acts performed

N.B. This analytic paradigm was used separately for each dependent variable.

A regression analysis was performed with the data utilizing the measures of I.Q., the S-Theme score of the Strong-Campbell Interest Inventory related to the concern one has with the welfare of others, and the need for achievement scores from the Mehrabian Questionnaire Measure of Individual Differences in Achieving Tendency to determine the effects of these person variables on the data.

CHAPTER IV

RESULTS

This field experiment explored the effect of several independent variables (year in high school, reward, evaluation, and requirement) on a number of dependent variables, namely, frequency of helping others (measured by a self report frequency measure), intrinsic interest in helping others (measured by Mayo's Task Reaction Questionnaire), continuing motivation to help others (measured by Maehr's Continuing Motivation Scale), and the difficulty of helping acts chosen by subjects to perform. In reporting the results of the experiment, there will first be a descriptive analysis of each treatment condition (the reward condition, the evaluation condition, and the required condition).

Related to the reward condition, the results will indicate which rewards were most often chosen, whether there was a difference by year for reward chosen, how often the rewards were earned, how salient the rewards were to the subjects, how valuable the rewards were to the subjects, and how subjects not rewarded felt about the fact that rewards were given to some subjects.

Related to the evaluation condition, the results will indicate what grades evaluated subjects earned and how salient this evaluation was to the subjects.

Related to the required condition, the results will report whether subjects fulfilled the requirements imposed by the experimenter (the subjects' school principal) and how salient these expectations were to subjects.

This descriptive analysis of the various treatment conditions

will be followed by a descriptive analysis of the kinds of helping opportunities performed by subjects. This will be followed by a report on the honesty of the subjects in recording the frequency of their helping others.

Following these descriptive analyses, results of the several factorial analyses of variances will be reported exploring the effect of requirement, reward, evaluation, and year in high school on frequency of helping, intrinsic interest in helping, continuing motivation to help, and the difficulty of helping acts chosen by subjects to perform.

The result section will conclude with a report of the multiple regression used to predict frequency of helping others, intrinsic interest in helping and continuing motivation to help others from IQ score (Otis-Lennon); occupational interest in working with people, interest in social service occupations, interest in teaching, interest in religious activities, and introversion/extroversion characteristics (measured by the Strong-Campbell Interest Inventory); and need for achievement (measured by Mehrabian's Questionnaire Measure of Individual Differences in Achieving Tendency).

REWARD CONDITION

Ninety six subjects (forty eight freshmen and forty eight juniors) were exposed to the reward condition. Subjects were given a choice of rewards each of the four two-week periods. The school rewards were suggested by a group of high school students and teachers.

Table 5 shows the frequency of rewards chosen crossed by year. A period off from a class of the student's choice was the most often

Table 5. Frequency of School Rewards Chosen by Freshmen and Juniors

Reward Choice	Frequency of Choice					
	Freshmen		Juniors		Total	
	N	%	N	%	N	%
Pass to Cancel Detention	12	.06	07	.04	19	.05
Free Lunch	14	.07	21	.11	35	.09
Off Campus Lunch	07	.04	08	.04	15	.04
Period Off From Class of Choice	55	.29	59	.31	114	.30
Pass for Game Room + $1.00 for Games	04	.02	01	.005	05	.01
Surprise Field Trip	06	.03	20	.10	26	.07
Use of Gym and Pool with Five Friends	41	.21	26	.14	67	.17
Exemption from Homework	02	.01	03	.02	05	.01
Exemption from Dress Code	29	.15	22	.11	51	.13
Chance on $25.00 Drawing	08	.04	07	.04	15	.04
Surprise Gift	05	.03	15	.08	20	.05
Use of School Elevator	08	.04	02	.01	10	.03
Wild Card	01	.005	01	.005	02	.005

chosen reward for both freshmen and juniors. Use of the gym and pool with five friends was the next most frequently chosen reward and exemption from the school's dress code the third most often chosen. In the second and fourth two week period there was a significant difference between the rewards the freshmen chose and the rewards the juniors chose (χ^2=24.55 with 8 degrees of freedom, $p<.002$ and χ^2=17.92 with 7 degrees of freedom, $p<.01$ respectively). The major differences in choice were that freshmen chose the use of the gym and pool with friends fourteen times as opposed to twice by juniors and juniors chose the surprise field trip eleven times as opposed to the freshmen who selected it only once in the second two-week period. In the fourth two-week period juniors chose the free lunch and surprise gift many times more than did freshmen.

The reward chosen was earned contingent upon scoring thirty five points for helping others during the two-week period. A subject scored five points for each time he helped at school or in a school related activity. During the first two-week period, twenty four subjects (twelve freshmen and twelve juniors) did not earn the reward chosen. Seventy two subjects (thirty six freshmen and thirty six juniors) did earn the reward chosen. During the second two-week period, fifteen subjects (nine freshmen and six juniors) did not earn the reward chosen. Eighty one subjects (thirty nine freshmen and forty two juniors) did earn the reward chosen. In the third two-week period, sixteen subjects (seven freshmen and nine juniors) did not earn the reward chosen. Eighty subjects (forty one freshmen and thirty nine juniors) did earn the reward chosen. There was no significant difference between two-

week periods in the number of subjects who did or did not earn the reward chosen. Clearly more of the reward subjects earned the reward than did not earn the reward. Consistently fifteen per cent of the subjects did not earn the reward and eighty five per cent of the subjects did earn the reward for helping a minimum of seven times over the two weeks. There was no consistency between the subjects who did not earn the reward. Only one of the ninety six subjects in the reward condition did not earn any reward, six did not earn three of the four possible rewards chosen, and nine did not earn two of the rewards.

In order to determine the salience of the reward to the subjects in the reward condition, the experimenter asked the subject two weeks after the reward had been chosen what reward he had chosen. In the first two-week period, six of the ninety six subjects in the reward condition did not remember or remembered wrongly the reward they had chosen. Eighty five remembered correctly the specific reward they had chosen prior to being given that reward. Five subjects were not asked. In the second two-week period, sixteen subjects did not remember or remembered incorrectly the reward they had chosen. Sixty six did remember. Fourteen were not asked. In the third two-week period, eighteen subjects did not remember or remembered wrongly the reward they had chosen. Sixty-nine subjects remembered correctly. Five were not asked. No subjects were asked about the final reward they had chosen. Consistently better than eighty per cent of the subjects, asked about the reward they had chosen two weeks before, remembered what that reward was.

In a questionnaire given to subjects at the end of the experiment, one hundred and eighty four (95.8%) of the one hundred and ninety two

subjects correctly identified whether they were in the reward or the non-reward condition. When asked how potent they felt the rewards offered were, none of the reward condition subjects rated the rewards offered as bad or poor. Fifteen of the reward condition subjects felt the rewards were okay, fifty two felt they were good, and twenty nine felt they were excellent. All of the non-rewarded subjects with the exception of fifteen (16%) knew that some subjects were being rewarded for helping others at school. When asked how they felt about the fact that some of their classmates were being rewarded for helping at school and they were not, only one said he was angry, fifteen said they were disappointed, sixty nine said it didn't bother them, and ten indicated they were just as happy not to be rewarded for helping others at school and one did not respond.

EVALUATED CONDITION

Ninety six subjects were graded for their involvement in helping others. Their grade depended on the number of times they helped during each two week period. Table 6 gives the breakdown of the grades subjects received during each of the four two-week periods and the final grade they received for their part in this project. This grade was sent home to the subject's parents.

When asked at the end of the experiment to identify whether they were in the evaluation or non-evaluation condition, one hundred and seventy four (90.6%) of the one hundred and ninety two subjects correctly identified whether their helping of others at school was being graded. It appears the great majority of subjects were conscious of

Table 6. Grades Earned by Evaluated Subjects During Each of the Two-Week Periods and the Final Composite Grade

Grade	Two Week Periods				Final Grade Earned
	First	Second	Third	Fourth	
A	88 (92%)	87 (91%)	88 (92%)	86 (90%)	89 (93%)
B	05 (05%)	05 (05%)	03 (03%)	03 (03%)	02 (02%)
C	01 (01%)	01 (01%)	02 (02%)	03 (03%)	03 (03%)
D	02 (02%)	03 (03%)	02 (02%)	03 (03%)	02 (02%)
F	00 (00%)	00 (00%)	01 (01%)	01 (01%)	00 (00%)

Note: Subjects earned an A for helping four or more times, a B for helping three times, a C for helping twice, a D for helping once, and an F for not helping at all. The final grade was an average of the four grades.

whether they were being evaluated.

REQUIRED CONDITION

Ninety six subjects were required by the experimenter (the subjects' principal) to perform at least one helping activity at school every two week period. Every required subject through their self report form indicated that they did at least one helping activity at school every two weeks. The experimenter reminded the required subjects every two weeks of the expectation that they must help at least once. At no time was it necessary for the experimenter to confront the subjects for not meeting the expectation.

When asked at the end of the experiment to indicate whether they were required to help others at school or not, one hundred and forty seven (76.6%) out of the one hundred and ninety two subjects responded correctly. Forty one of the forty five who were incorrect in identifying whether they were required to help at school or if it was up to them to decide, were in the required condition. It is possible these subjects misunderstood the question in that the experimenter informed them that they were expected to help at school once and could help more if they wanted.

HELPING OPPORTUNITIES

Each two weeks the subjects were given a sheet containing possible helping opportunities at school. They were asked to mark the sheet each time they performed a helping act at school. Table 7 lists the helping opportunities with the mean frequency for each. In the first two-week

Table 7. Description of Subjects' Performance of Helping Opportunities During Each of Four Two-Week Periods

First Two Week Period

Helping Opportunity	Sum	Mean
Helping a Teacher at School	259	1.349
Money to Missions	173	.901
Cans to Food Drive	42	.219
Tutoring a Student	151	.786
Picking Up Litter	442	2.302
Helping a Student in a Jam	228	1.187
Helping on Soup Line	10	.052
Organizing a Student Activity	29	.151
Volunteering to Help in Activity	69	.359
Going Out of Way to Help Student or Teacher	186	.969

Second Two Week Period

Helping Opportunity	Sum	Mean
Cleaning Up Cafeteria	280	1.458
Giving Student Needed Money	366	1.906
Helping with Evening Activity	21	.109
Helping Teacher	175	.911
Picking Up Litter	323	1.682
Helping Mr. H.	4	.021

Table 7 Continued

Tutoring Students	117	.609
Helping Fr. B.	6	.031
Helping Student in a Jam	201	1.047
Helping in a Student Activity	42	.219

Third Two Week Period

Helping Opportunity	Sum	Mean
Cleaning Up Cafeteria	346	1.802
Giving Student Needed Money	376	1.958
Volunteering to Help at Evening Activity	23	.120
Helping Teacher	162	.844
Picking Up Litter	340	1.771
Helping Mr. H.	3	.016
Tutoring Students	130	.677
Helping Fr. B.	1	.005
Helping a Student in a Jam	207	1.078
Helping in a Student Activity	52	.271

Fourth Two Week Period

Helping Opportunity	Sum	Mean
Cleaning Graffitti	241	1.255
Helping a Coach	129	.672
Helping with an Evening Activity	35	.182

Table 7 Continued

Cleaning Up Cafeteria	370	1.927
Helping Mr. H.	2	.010
Helping Fr. K.	5	.026
Helping Fr. B.	8	.042
Helping Mrs. L.	24	.125
Tutoring Students	170	.885
Helping a Student in a Jam	271	1.411
Picking Up Litter	339	1.766

period, the helping acts at school most often performed were picking up litter ($\bar{\chi}$=2.302), helping a teacher at school ($\bar{\chi}$=1.349), and helping out a student in a jam ($\bar{\chi}$=1.187). In the second two week period, the three helping opportunities most often performed were giving a student some needed money ($\bar{\chi}$=1.906), picking up litter ($\bar{\chi}$=1.682), and cleaning up the cafeteria ($\bar{\chi}$=1.458). In the third two week period, the three helping activities most often performed were giving students needed money ($\bar{\chi}$=1.958), cleaning up the cafeteria ($\bar{\chi}$=1.802), and picking up litter ($\bar{\chi}$=1.771). In the fourth two week period, the three helping activities most often performed were cleaning up the cafeteria (χ=1.927), picking up litter ($\bar{\chi}$=1.766), and helping a student in a jam ($\bar{\chi}$=1.411).

During the first two week period subjects performed one thousand six hundred and sixty nine (1,669) helping acts at school ($\bar{\chi}$= 8.69). During the second two week period subjects performed one thousand five hundred and sixty four (1,564) helping acts at school ($\bar{\chi}$=8.14). During the third two week period subjects performed one thousand six hundred and sixty one (1,661) helping acts ($\bar{\chi}$=8.65). In the final two week period, subjects performed one thousand six hundred and fifty (1,650) helping acts at school ($\bar{\chi}$=8.59). There was no significant difference between the number of helping acts performed in any of the four two-week periods. The total number of helping acts performed by the subjects of the experiment were six thousand five hundred and forty four (6,544; $\bar{\chi}$=34.08).

HONESTY OF SELF REPORT

Subjects were asked to record the times they helped at school by marking the Helping Others Sheet each two week period. Subjects were asked each two weeks to sign the sheet as their word verifying that they actually did perform what they had recorded. Among the forty one possible helping opportunities for the eight weeks, eleven were unobtrusive measures. From these eleven helping acts, the experimenter had a check on the honesty of the subjects' self report. Subjects reported one hundred and seven instances of these helping acts over the course of the experiment. The experimenter was able to verify all one hundred and seven instances. Similarly there were only one hundred and seven instances that subjects could have reported. Subjects were accurate in recording the unobtrusive acts they had performed and honest in only reporting those acts.

In a questionnaire given to subjects after the experiment, they were asked to indicate if they knew whether others were honest in reporting what they did and if they had been honest in their self reporting. Table 8 shows the breakdown by year of subjects' perception of others' honesty and their own honesty in self reporting. Of the seventeen reporting themselves as dishonest seven were in the reward condition and ten in the non-reward condition; eight were in the evaluation condition and nine in the non-evaluation condition; fourteen were in the required condition and three in the non-required condition. Only four subjects reported that neither they nor others were honest in their self reports. The fifty three subjects who reported that others were dishonest gave

Table 8. Subjects' Perception of Their Own and Others' Honesty in Reporting Helping Acts Performed at School

Report on Others' Honesty			
Honesty	Freshmen	Juniors	Total
Others Dishonest	24	29	53
Others Honest	72	67	139

Report on Self Honesty			
Honesty	Freshmen	Juniors	Total
Dishonest	5	12	17
Honest	91	84	175

only one reason for their perception. Some (N=22) indicated that they saw subjects marking their sheet just before they turned them in which caused them to wonder whether they had actually performed the helping acts. No one indicated that they knew first-hand that others had been dishonest in their self report.

EFFECT OF REQUIREMENTS

It was hypothesized that students required to engage in helping behavior would not differ significantly from students invited to help in the frequency of their helping others. When required helping acts were not counted (one in every two week period totalling four for each subject), this null hypothesis was rejected. Required subjects helped significantly fewer times than subjects invited to help.

It was hypothesized that students required to engage in helping behavior would not differ significantly from students invited to help in their intrinsic motivation to help others. This null hypothesis was not rejected, indicating that in this experiment requiring subjects to help did not decrease their intrinsic interest in helping.

It was hypothesized that students required to engage in helping behavior would not differ significantly from students invited to help in their continuing motivation to help others. This null hypothesis was not rejected, indicating that in this experiment requiring subjects to help did not decrease their continuing motivation to help others.

Finally, it was hypothesized that students required to engage in helping behavior would not differ significantly from students invited to help in the difficulty of helping acts chosen by subjects to perform.

This null hypothesis was not rejected, indicating that subjects required to help did not choose easier helping opportunities than subjects invited to help.

Tables 9, 10, 11, 12 and 13 summarize the results of 2x2x2x2 ANOVAS in which levels of expectation (required and invited) were partitioned with level of reward (reward and no reward) and with level of external evaluation (graded and not graded) and year in high school (freshmen and juniors). There was no significant difference in main effects for any of the dependent variables except the effect of requirement on the frequency of helping acts performed at school when the one required helping act demanded by the experimenter was not counted. Subjects required to help performed significantly fewer helping acts than subjects invited to help ($F=6.574$, $p<.011$).

There was a significant difference in the frequency of helping acts performed in the two way interaction for reward and requirement. When required acts were not counted $F\ (1, 181) = 6.321$, $p<.013$ and this significance was also found when required acts were counted $F\ (1, 181) = 6.435$, $p<.012$. Table 14 shows the results of the interaction effect and Tukey's HSD test for significance. When required acts were not counted, Tukey's HSD was 7.69 for the .05 level of significance. By this criteria there was a significant difference at the .05 level. Not required and not rewarded subjects helped significantly more often than required and not rewarded subjects. All other differences were not significant. When required acts were counted, Tukey's HSD was also 7.69 for the .05 level. By this criteria none of the group means proved significantly different.

Table 9. Summary of Factorial Analysis of Variance Exploring the Effect of Requirement, Evaluation, Reward, and Year in High School on Subjects' Frequency of Helping When Required Helping Acts Were Counted

Source of Variation		Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects		500.812	4	125.203	0.597	0.665
Year		100.630	1	100.630	0.480	0.489
Reward		166.880	1	166.880	0.796	0.374
Eval		138.380	1	138.380	0.660	0.418
Req		94.922	1	94.922	0.453	0.502
2-Way Interactions		2161.198	6	360.199	1.718	0.119
Year	Reward	115.630	1	115.630	0.551	0.459
Year	Eval	30.880	1	30.880	0.147	0.702
Year	Req	27.755	1	27.755	0.132	0.716
Reward	Eval	354.797	1	354.797	1.692	0.195
Reward	Req	1349.380	1	1349.380	6.435	0.012
Eval	Req	282.755	1	282.755	1.348	0.247
Explained		2662.012	10	266.201	1.269	0.251
Residual		37953.992	181	209.691		
Total		40616.004	191	212.649		

Table 10. Summary of Factorial Analysis of Variance Exploring the Effect of Requirement, Evaluation, Reward and Year in High School on Subjects' Frequency of Helping When Required Helping Acts Were Not Counted

Source of Variation		Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects		1763.375	4	440.844	2.106	0.082
Year		96.333	1	96.333	0.460	0.498
Reward		157.687	1	157.687	0.753	0.387
Eval		133.333	1	133.333	0.637	0.426
Req		1376.021	1	1376.021	6.574	0.011
2-Way Interactions		2101.167	6	350.194	1.673	0.130
Year	Reward	111.021	1	111.021	0.530	0.467
Year	Eval	30.083	1	30.083	0.144	0.705
Year	Req	25.521	1	25.521	0.122	0.727
Reward	Eval	336.021	1	336.021	1.605	0.207
Reward	Req	1323.000	1	1323.000	6.321	0.013
Eval	Req	275.521	1	275.521	1.316	0.253
Explained		3864.543	10	386.454	1.846	0.056
Residual		37885.773	181	209.314		
Total		41750.316	191	218.588		

Table 11. Summary of Factorial Analysis of Variance Exploring the Effect of Requirement, Evaluation, Reward, and Year in High School on Subjects' Continuing Motivation to Help Others

Source of Variation		Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects		5.937	4	1.484	0.691	0.599
Year		3.797	1	3.797	1.767	0.185
Reward		0.880	1	0.880	0.410	0.523
Eval		0.630	1	0.630	0.293	0.589
Req		0.630	1	0.630	0.293	0.589
2-Way Interactions		6.990	6	1.165	0.542	0.776
Year	Reward	0.047	1	0.047	0.022	0.883
Year	Eval	0.005	1	0.005	0.002	0.961
Year	Req	5.005	1	5.005	2.329	0.129
Reward	Eval	0.422	1	0.422	0.196	0.658
Reward	Req	0.005	1	0.005	0.002	0.961
Eval	Req	1.505	1	1.505	0.700	0.404
Explained		12.927	10	1.293	0.602	0.811
Residual		388.932	181	2.149		
Total		401.860	191	2.104		

Table 12. Summary of Factorial Analysis of Variance Exploring the Effect of Requirement, Evaluation, Reward, and Year in High School on Subjects' Intrinsic Motivation to Help Others

Source of Variation		Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects		1509.271	4	377.318	0.871	0.482
Year		598.547	1	598.547	1.382	0.241
Reward		905.672	1	905.672	2.091	0.150
Eval		2.755	1	2.755	0.006	0.937
Req		2.297	1	2.297	0.005	0.942
2-Way Interactions		3519.819	6	586.636	1.354	0.235
Year	Reward	376.880	1	376.880	0.870	0.352
Year	Eval	1317.755	1	1317.755	3.042	0.083
Year	Req	1106.880	1	1106.880	2.555	0.112
Reward	Eval	78.797	1	78.797	0.182	0.670
Reward	Req	570.630	1	570.630	1.317	0.253
Eval	Req	68.880	1	68.880	0.159	0.691
Explained		5029.125	10	502.912	1.161	0.320
Residual		78400.250	181	433.150		
Total		83429.375	191	436.803		

Table 13. Summary of Factorial Analysis of Variance Exploring the Effect of Requirement, Evaluation, Reward and Year in High School on Subjects' Performance of Difficult Helping Activities at School

Source of Variation		Sum of Squares	DF	Mean Square	F	Significance of F
Main Effects		1200.062	4	300.015	0.614	0.653
Year		438.021	1	438.021	0.896	0.345
Reward		295.021	1	295.021	0.604	0.438
Eval		432.000	1	432.000	0.884	0.348
Req		35.021	1	35.021	0.072	0.789
2-Way Interactions		5064.395	6	844.066	1.727	0.117
Year	Reward	161.333	1	161.333	0.330	0.566
Year	Eval	93.521	1	93.521	0.191	0.662
Year	Req	192.000	1	192.000	0.393	0.532
Reward	Eval	475.021	1	475.021	0.972	0.325
Reward	Req	3267.000	1	3267.000	6.686	0.011
Eval	Req	875.521	1	875.521	1.792	0.182
Explained		6264.500	10	626.450	1.282	0.243
Residual		88443.813	181	488.640		
Total		94708.313	191	495.855		

Table 14. Results of 2-Way Interaction (Reward and Requirement) In Frequency of Helping Acts Performed and Summary of Tukey's HSD Test for Significance Between Means

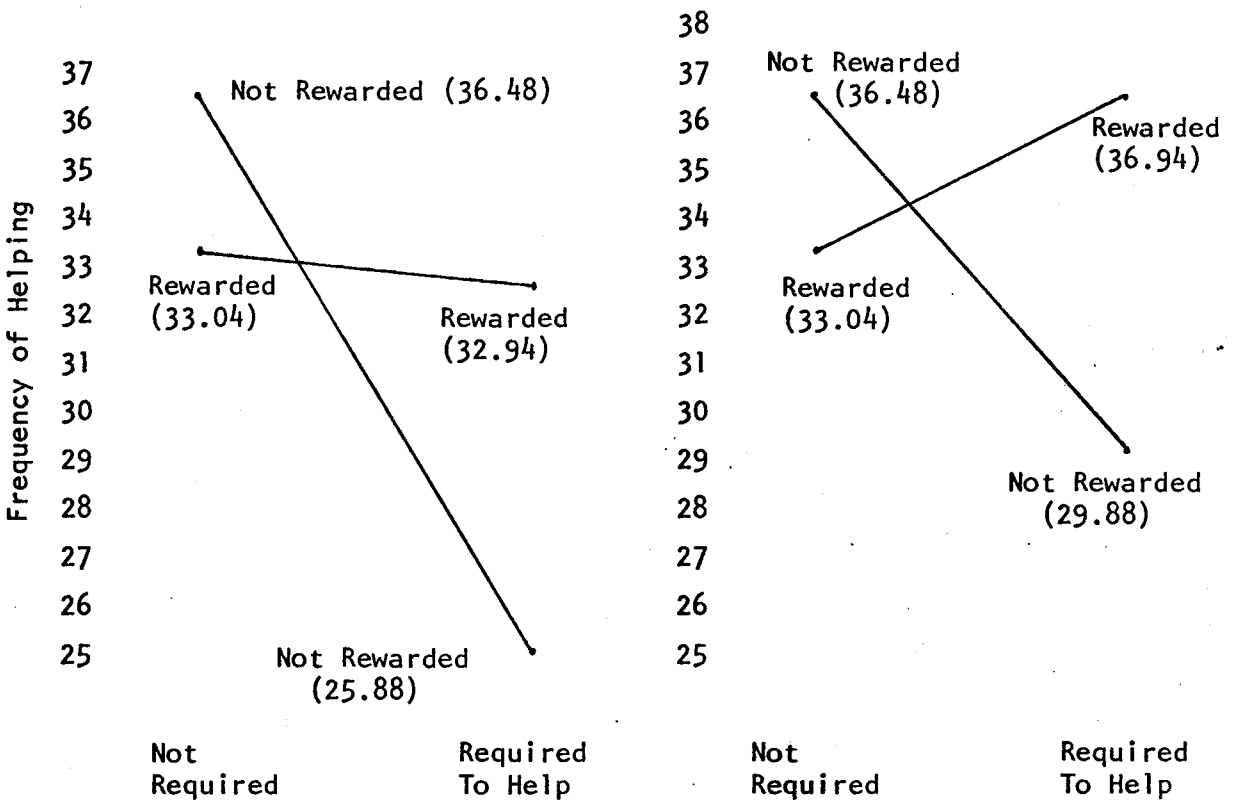


Table 14 Continued

	Req Not Rew 25.88	Req Rew 32.94	Not Req Rew 33.04	Not Req Not Rew 36.48		Req Not Rew 29.88	Not Req Rew 33.04	Not Req Not Rew 36.48	Req Rew 36.94
Req/Not Rew 25.88		7.06	7.16	10.60*	29.88		3.16	6.60	7.06
Req/ Rew 32.94			.10	3.54	33.04			3.44	3.90
Not Req/ Rew 33.04				3.44	36.48				.46
Not Req/ Not Rew 36.48					36.94				

Note: *p .05

Each subject was given a Weighted Helping Score for the difficulty of the helping acts they chose to perform. There was a significant difference in the difficulty of helping acts performed in the two-way interaction for reward and requirement $F(1, 181) = 6.686$, $p<.011$.

Table 15 shows the results of the interaction and of Tukey's HSD test for significance. Tukey's HSD was 11.7 at the .05 level of significance. By this criteria none of the differences in means proved significant.

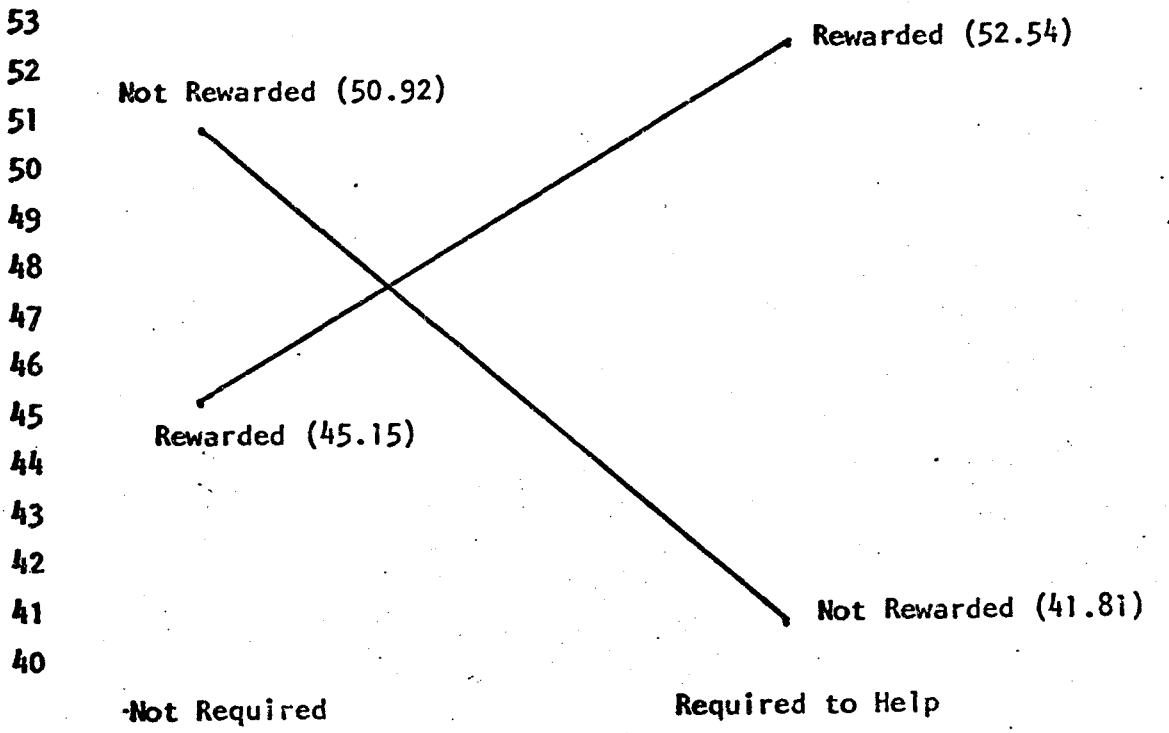
There was no significance found for requirement's effect on subjects' continuing motivation to help (measured by Maehr's Continuing Motivation Scale) or subjects' intrinsic motivation to help (measured by Mayo's Task Reaction Questionnaire).

EFFECT OF REWARD

It was hypothesized that there would be no significant difference in the frequency of helping behaviors performed by students given an extrinsic, material, contingent, exogenous, salient reward and students not rewarded for helping others. This null hypothesis was not rejected, indicating that rewarded subjects did not help more or less often than subjects not rewarded for helping.

It was hypothesized that there would be no significant difference in intrinsic motivation to help others between students given extrinsic, material, contingent, exogenous, salient rewards for helping and students not rewarded for helping. This null hypothesis was not rejected, indicating that subjects rewarded for helping did not result in a decrease

Table 15. Results of 2-Way Interaction (Reward and Requirement) In Weighted Helping Score and Summary of Tukey's HSD Test for Significance Between Means



	Req Not Rew 41.81	Not Req Rew 45.15	Not Req Not Rew 50.92	Req Rew 52.54
Req/ Not Rew 41.81	-	3.24^{NS}	9.11^{NS}	10.73^{NS}
Not Req/ Rew 45.15		-	4.77^{NS}	6.39^{NS}
Not Req/ Not Rew 50.92			-	1.62^{NS}
Req/ Rew 52.54				

in intrinsic motivation to help others.

It was hypothesized that there would be no significant difference in the continuing motivation to help others for students given an extrinsic, material, contingent, exogenous, salient reward and students not rewarded for helping others. This null hypothesis was not rejected, indicating that subjects rewarded for helping did not result in a decrease in continuing interest in helping others.

Finally, it was hypothesized that there would be no significant difference in the difficulty of helping acts chosen by subjects to be performed between subjects given an extrinsic, material, contingent, exogenous, salient reward and students not rewarded for helping others. This null hypothesis was not rejected, indicating that subjects rewarded for helping did not choose easier helping tasks to perform.

Ninety six subjects were offered the choice of a material reward contingent upon their performance of seven or more helping acts performed at school over and above the one helping act some were required to do.

Overall, there were no significant main effects due to reward for any of the dependent variables (frequency of helping, continuing motivation to help others, intrinsic motivation to help others, or difficulty of helping acts performed) of the experiment. The results for the 2-way interaction effect between reward and requirement on the frequency of helping acts performed and subjects' Weighted Helping Score are summarized in Tables 14 and 15.

EFFECT OF EVALUATION

It was hypothesized that there would be no significant difference in the frequency of helping behaviors performed between students externally evaluated with grades for helping and students not evaluated with grades for helping others. This null hypothesis was not rejected, indicating that subjects graded for helping did not help more or less often than subjects not graded.

It was hypothesized that there would be no significant difference in intrinsic motivation to help between subjects externally evaluated with grades for helping and subjects not evaluated with grades for helping others. This null hypothesis was not rejected, indicating that subjects graded for helping did not result in a decrease in intrinsic interest in helping.

It was hypothesized that there would be no significant difference in continuing motivation to help others between subjects externally evaluated with grades for helping and subjects not evaluated with grades. This null hypothesis was not rejected, indicating that subjects graded for helping did not result in a decrease in continuing motivation to help others.

Finally, it was hypothesized that there would be no significant difference in the difficulty of helping acts chosen by subjects to perform between students externally evaluated with grades for helping and students not evaluated with grades. This null hypothesis was not rejected, indicating that subjects graded for helping did not choose easier helping opportunities to perform.

Ninety six subjects were graded for their involvement in helping others. Each two week period they received an A/B/C/D/F depending on whether they indicated they helped four or more times/three times/two times/one time/not at all during the two week period.

There were no significant main effects or interaction effects involving the evaluation/non-evaluation condition. The results show no support for rejecting the null hypotheses which state that there would be no difference between evaluated and non-evaluated subjects in their frequency of helping, their continuing motivation to help others, their intrinsic motivation to help others, or their performance of difficult helping acts.

The only near significant interaction effect was related to the dependent variable of intrinsic motivation measured by Mayo's Task Reaction Questionnaire. The 2-way interaction for Year (Freshmen or Juniors) and Evaluation (Graded or not graded) had an $F(1, 181) = 3.042$ $p<.083$ (see Table 12). Evaluated Junior subjects had a mean score on the Helping Others Questionnaire of 109.73; Freshmen Non-Evaluated subjects had a mean score of 113.02; Junior Non-Evaluated subjects had a mean score of 114.73; and Freshmen Evaluated subjects had a mean score of 118.50. While not significant there was a strong interaction effect.

EFFECT OF YEAR IN HIGH SCHOOL

It was hypothesized that there would be no significant difference in the frequency of helping others, intrinsic interest in helping others, continuing motivation to help others, and the difficulty of helping acts

chosen by subjects to perform based on subjects' year in high school (freshman or junior). These null hypotheses were not rejected, indicating that year in high school was not a significant factor in the experiment.

With the exception of the nearly significant interaction effect of Year and Evaluation on intrinsic motivation, there were no significant results due to subjects' year in high school.

MULTIPLE REGRESSION ON PERSONAL VARIABLES

For each subject in the experiment, the experimenter had an IQ score (Otis-Lennon) taken when the subjects entered high school; a Strong-Campbell Interest Inventory including a score for occupational interest in working with people (S-Theme), a score for interest in social service occupations (socserv), teaching (teach), and religious activities (relact), as well as a score for introversion/extroversion (intext); and a measure of need for achievement (Mehrabian's Questionnaire Measure of Individual Differences in Achieving Tendency, 1978). These were used as independent variables in separate stepwise multiple regressions for the dependent variables of frequency of helping, continuing motivation, and intrinsic motivation for helping others.

Table 16 shows the results of the Maximum R^2 Improvement Technique from the SAS statistical package for the dependent variables (continuing motivation, intrinsic motivation, frequency of helping others).

For continuing motivation, the best seven variable model found

Table 16. Summary of Maximum R Square Improvement Resulting from the Following Independent Variables: IQ, Interest in Working with People, Interest in Social Service, Teaching, Religious Activity, Introversion/Extroversion, Need for Achievement

Dependent Variable: Continuing Motivation to Help Others

Best Seven Variable Model Found

Analysis of Variance

Source of Variance	DF	Sum of Squares	Mean Square	F	Prob F
Regression	7	90.4816	12.9559	7.64	.0001
Error	184	311.3882	1.6923		
Total	191	401.8698			

R^2=0.2252

Variables	B Value	F	Prob F
S-Theme	-0.0550	3.60	0.0592^{ns}
Socserv	0.0365	3.19	0.0758^{ns}
Relac	0.0488	8.75	0.0035^{**}
Teach	0.0231	2.87	0.0921^{ns}
IQ	0.0045	0.22	0.6381^{ns}
Mera	0.0089	7.35	0.0073^{**}
Intext	-0.0227	2.53	0.1136^{ns}

Table 16 Continued

Dependent Variable: Intrinsic Motivation to Help Others

Best Seven Variable Model Found

Analysis of Variance

Source of Variance	DF	Sum of Squares	Mean Square	F	Prob F
Regression	7	23689.1356	3384.1622	10.42	.0001
Error	184	59741.8592	324.6840		
Total	191	83430.9948			

R^2=0.2839

Variables	B Value	F	Prob F
S-Theme	0.0440	0.01	0.9128^{ns}
Socserv	0.3807	1.81	0.1801^{ns}
Relac	0.4585	4.02	0.0465^{*}
Teach	0.0889	0.22	0.6390^{ns}
IQ	-0.3849	8.15	0.0048^{**}
Mera	0.2529	31.25	0.0001^{**}
Intext	0.2387	1.46	0.2280^{ns}

Table 16 Continued

Dependent Variable: Frequency of Helping Others

Best Seven Variable Model Found

Analysis of Variance

Source of Variance	DF	Sum of Squares	Mean Square	F	Prob F
Regression	7	2275.2799	325.0400	1.56	.1490
Error	184	38341.0899	208.3755		
Total	191	40616.3698			

R^2=0.0560

Variables	B Value	F	Prob F
S-Theme	0.0575	0.03	0.8583^{ns}
Socserv	-0.0364	0.03	0.8726^{ns}
Relac	0.2426	1.75	0.1871^{ns}
Teach	-0.1032	0.46	0.4971^{ns}
IQ	0.0100	0.01	0.9262^{ns}
Mera	0.0779	4.62	0.0329^{*}
Intext	-0.0078	0.00	0.9606^{ns}

Note: *p .05; **p .01

Table 16 Continued

Note: S-Theme = Interest in Working with People, from Strong-Campbell Interest Inventory

Socserv = Interest in Social Service, from Strong-Campbell Interest Inventory

Relac = Interest in Religious Activity, from Strong-Campbell Interest Inventory

Teach = Interest in Teaching, from Strong-Campbell Interest Inventory

IQ = Otis-Lennon IQ

Mera = Need for Achievement Measured by Mehrabian's Questionnaire Measure

Intext = Introversion/Extroversion from Strong-Campbell Interest Inventory

had an R^2 = .2251. The analysis of variance had an F (7, 184) = 7.64, p<.0001. The first variable entered was interest in religious activity (measured by the Strong-Campbell Interest Inventory). This variable showed an R^2=.1375 with an F (1, 190) = 30.29, p<.0001. The second variable entered was need for achievement (measured by Mehrabian's Questionnaire Measure) which brought the R^2 to 1.872 with an F (2, 189) = 21.76, p<.0001. In the final best seven variable model these two variables showed a significant F of 8.75 and 7.35 respectively.

For intrinsic motivation, the best seven variable model found had an R^2=.2839. The analysis of variance had an F (7, 184) = 10.42, p<.0001. The first variable entered was need for achievement (measured by Mehrabian's Questionnaire Measure). This variable showed an R^2= .1504 with an F (1, 190) = 33.63, p<.0001. The second variable entered was interest in religious activity (measured by the Strong-Campbell Interest Inventory) which brought the R^2 to .2256 with an F (2, 189) = 27.52, p<.0001. The third variable entered was IQ (Otis-Lennon) which brough the R^2 to .2670 with an F (3, 188) = 22.83, p<.0001. In the final best seven variable model, these three variables showed a significant F. Need for achievement had an F=31.25, p<.0001; interest in religious activity had an F=4.02, p<.0465; IQ had an F=8.15, p<.0048.

For frequency of helping others, the best seven variable model found had an R^2=.056. The analysis of variance had an F (7, 184) = 1.56 which was not significant. The only variable with a significant F was need for achievement with an F=4.62, p<.0329.

SUMMARY

In this experiment it was found that subjects required to help others at school performed fewer helping acts than subjects invited to help. Furthermore, subjects not required and not rewarded for helping performed more helping acts than subjects required but not rewarded.

Besides these treatment results, it was found that interest in religious activity (measured by the Strong-Campbell Interest Inventory) and need for achievement (measured by Mehrabian's Questionnaire Measure) were significant in predicting a subject's continuing motivation in helping others. Similarly, need for achievement (measured by Mehrabian's Questionnaire Measure), interest in religious activity (measured by the Strong-Campbell Interest Inventory) and IQ (measured by the Otis-Lennon Test) showed to be significant in predicting a subject's intrinsic interest in helping others.

CHAPTER V

DISCUSSION

Teachers have a responsibility to encourage prosocial behavior. This field experiment attempted to explore directions for motivating subjects through reward, evaluation, and requirement, to help more often at school and determine whether these extrinsic incentives offered at school, while motivating subjects to help more often, do so at the expense of subjects' intrinsic interest and continuing motivation to help. This chapter will discuss what was learned about motivating subjects to help and attempt to explain why these extrinsic incentives did not have detrimental effects as predicted on intrinsic motivation (measured by Mayo's Task Reaction Questionnaire) and continuing motivation to help others (measured by Maehr's Continuing Motivation Scale). Finally, the chapter will discuss suggestions for future research critiquing the present experiment and setting directions for future research.

FREQUENCY OF HELPING

It was hypothesized that requiring subjects to help, rewarding them for helping others, and grading them for their part in helping others would not significantly affect the frequency of subjects helping others. This hypothesis was rejected. Required subjects performed fewer helping acts than subjects invited to help when required helping acts were not counted. Rewarding subjects for helping and grading subjects for helping did not result in any significant difference in the frequency of helping acts performed by subjects.

While research has shown that tangible, extrinsic incentives that are offered for performance often produce detrimental effects on performance of a number of standard laboratory tasks (McGraw, 1978), this field experiment did not support that result. Rewarded subjects given five points for each helping act performed did not help any more often than subjects not rewarded for the frequency of their helping others. Similarly, evaluated subjects offered an A for performing four or more helping acts each two weeks did not help any more or less often than non-evaluated subjects.

Deci and Borac (1978) have reported that subjects rewarded for performance tend to choose relatively easy tasks though not the easiest, while non-rewarded subjects choose relatively difficult tasks to perform. Again, this field experiment did not support that finding. Rewarded subjects and evaluated subjects did not choose to perform more difficult or less difficult helping acts than did non-rewarded or non-evaluated subjects.

In this experiment, neither the quality nor the quantity of the performance of helping acts was effected by the offering of a reward or a grade contingent upon performance. The extrinsic contingencies (extrinsic, tangible rewards and evaluation by grades) did not enhance or hinder performance. McGraw (1978) distinguishes between tasks on which reward has a detrimental effect and tasks on which reward has a facilitating effect. Tasks on which reward has a detrimental effect are characterized as attractive (for example, discrimination learning, concept attainment, insight learning, creativity problems, and incidental recall). Prerequisite to the appearance of a detrimental effect

of extrinsic contingencies is a task sufficiently attractive to elicit the best effort of the non-reward group. When a subject's initial perception of the task is aversive, reward should facilitate; when it is attractive, reward will be detrimental. In addition to task attractiveness, McGraw (1978) identifies the distinction between a heuristic and algorithmic solution in explaining the varying effect of extrinsic contingencies. The most favorable case for detrimental effects of reward on performance appears to be where attractive tasks require heuristic solutions. McGraw (1978) notes that when task mastery is principally dependent upon rate variables like amount of rehearsal and frequency unit accumulations, reward should either facilitate or have no effect depending on whether the non-reward subjects view the task as aversive or attractive. It appears that perhaps the no effect for reward and grades on performance was the result of the attractiveness of the task of helping others coupled with the frequency unit measure (an algorithmic solution).

Requiring subjects to help at least once every two weeks did affect the performance of helping acts. Required subjects helped less often than non-required subjects when the required helping acts were not counted. The experimenter did not count the four required acts (one every two weeks) because these were demanded of the subjects. Only helping acts done on the subjects' own initiative were counted. This seemed justified in that otherwise required subjects would have an advantage in frequency of helping, being expected by the experimenter (the school principal) to help at least once every two weeks. It is possible that required subjects resented being expected to help or

felt less the origin of their behavior than did subjects invited to take part in helping others. DeCharms (1968) hypothesizes that extrinsic contingencies, by leading persons to perceive themselves more as pawns, will negatively affect performance. This field experiment gives support to this hypothesis in that required subjects helped less. However, it does not appear that this is a firm finding in that the result did not hold up when the required acts were counted. Similarly, requiring subjects to help did not effect the difficulty level of the helping opportunities which subjects chose to perform.

The firmest finding of this field experiment was the interaction effect of requirement and reward on the frequency of helping acts performed and the difficulty of the helping acts chosen by the subject. When required acts were not counted, not rewarded but required subjects helped less than not rewarded and not required subjects. When required acts were counted, not rewarded but required subjects helped less than rewarded and required subjects. Similarly, not rewarded and required subjects chose easier helping acts to perform than did rewarded and required subjects. It appears that when subjects felt required to help without any other incentive, for example, a reward or a grade, they did not perform as well. Once again it is suggested that subjects required to help without any incentives felt burdened and experienced the project more as work than as play. Similarly, subjects not required to help may have experienced themselves more as origin of their behavior and so were more interested in taking part. It would appear that simply requiring subjects to perform can have detrimental effects on both the frequency and quality of performance. However, by adding incentives

the negative effect is mitigated. Teachers need to be careful in simply requiring performance, in that under these circumstances students will meet the expectation; however, they may not perform as well as when invited.

INTRINSIC MOTIVATION

Lepper and Greene (1978) speak of the "Hidden Costs of Reward" and go so far as to imply a potential paradigm shift from seeing reward as facilitating to seeing reward as detrimental. They cite a growing body of research, primarily performed in the laboratory, that shows a detrimental effect of extrinsic contingencies on intrinsic motivation. This field experiment does not support this research. Requiring subjects to help, rewarding subjects for helping, and evaluating subjects for helping did not affect the subjects' intrinsic motivation to help measured by Mayo's Task Reaction Questionnaire. Deci (1975) hypothesizes from attribution theory that extrinsic contingencies change a person's perception of why he/she is performing a certain task. When an action is attributed to endogenous factors, it implies that the actor has positive affect, that is, enjoyment, contentment, satisfaction, and includes the inference of subjective freedom. Such an attribution fosters intrinsic motivation. When an extrinsic contingency is present the action is exogenously attributed, which implies the actor's negative affect and includes the inference of compulsion. It was anticipated that rewarded, graded, and required subjects would perceive the task of helping others as exogenous and thereby experience less intrinsic motivation to help. This did not happen. It seems that the subjects of

the experiment did not make this means-end attribution which is critical to the finding of detrimental effects on intrinsic motivation. While every effort was made by the experimenter to make the extrinsic contingencies salient and contingent, these contingencies did not seem to distract subjects in such a way as to interfere or lessen their intrinsic interest in helping. It is possible that subjects having been invited by the experimenter to take part in a project for the school simply did what was expected or asked of them without making the critical attribution of exogeneity necessary for the detrimental effect. It is possible that because the experimenter was the school principal the subjects were simply trying to please the experimenter, and did not make any attribution related to their own interest in the task. Kruglanski (1978) suggests that in a no-choice condition the subject's wish to obey the experimenter's instruction seems so compelling a reason for performing the activity as to render possible alternative reasons implausible by comparison. While every effort was made by the experimenter to make the rewards offered subjects exogenous to the performance of helping acts, it is quite possible that subjects never made this attribution. Varday Wiesieltier's studies cited by Kruglanski (1978) found that activities performed in the service of altruistic goals are apprehended by subjects as intrinsically motivated. It is possible that subjects rewarded or graded or required to help others performed these acts altruistically or under obedience but that they did not attribute their helping to the reward or grade they were earning and thereby lessened their intrinsic interest in helping. It is possible that the reward or grade led the subjects to feel competent

or pleasing to the experimenter in which case the reward or grade would not have been detrimental to intrinsic motivation (Deci, 1975; Karniol and Ross, 1976; Lepper and Greene, 1976; Ross, 1975).

Fischer (1978) concludes her study, exploring the effect of pay on intrinsic motivation defined as feelings of personal control and feelings of competence and measured by Mayo's Task Reaction Questionnaire, by saying that the reduction in intrinsic motivation frequently observed in the laboratory may not necessarily occur in natural settings. This is supported in this field experiment.

While treatment effects failed to show any significant differences in intrinsic motivation for randomly established treatment groups, some interesting results were found in attempting to explain the variance in intrinsic motivation measured by Mayo's Task Reaction Questionnaire. It appears that subjects with a high need for achievement measured by Mehrabian's Questionnaire, a high interest in religious activity measured by the Strong-Campbell Interest Inventory and a high intelligence measured by the Otis-Lennon IQ had a correspondingly high intrinsic interest in helping others. These person variables were operative regardless of the treatment effects. This study gives impetus to suggestions that factors other than reward or evaluation are operative in determining one's level of intrinsic interest. It would seem that among the factors that need further study would be the subjects' initial level of interest in the task as well as the subjects' need for achievement and even their intelligence. These factors could strongly affect a sense of personal control and competence which Deci (1975) defines as determinants of intrinsic motivation. It is possible that

in the natural setting, personal variables better predict variance in intrinsic motivation than do treatment conditions.

CONTINUING MOTIVATION

Maehr and Stallings (1972, 1976) identify a detrimental effect of extrinsic contingencies on subjects' continuing interest in engaging in tasks. This finding was not supported in this study. Neither rewards nor grades nor requiring subjects to help affected their continuing interest in helping. It seems critical that teachers develop ways to foster students' continuing interest in engaging in tasks outside the instructional setting. This study suggests that perhaps cautions about the effect of token economies and grading systems are not justified. That is to say that detrimental effects on intrinsic motivation or continuing motivation do not necessarily result. Certainly, further study is demanded. In this experiment, certain personal variables were significant in predicting variability in the dependent variable of continuing motivation for helping others. Interest in religious activity measured by the Strong-Campbell Interest Inventory and need for achievement measured by Mehrabian's Questionnaire Measure were found to be significant related to variability in a student's continuing motivation to help others. It appears that a subject's continuing interest in helping others is better accounted for by any number of personal variables among which are need for achievement and interest in religion than by the conditions under which they engage in helping others. It would seem important for teachers to become better acquainted with their students (Lepper and Dafoe, 1979) because only to the extent that they

do, can it be expected that teachers will facilitate students' growth. In this field experiment students' continuing interest in helping others on their own was not affected by extrinsic contingencies as anticipated but could be partly predicted by identification of student interest and needs. Students so identified can be given opportunities to exercise those interests. For students lacking interest, perhaps rewards or grades are the very incentives that are needed to bring about engagement in a task that might be subsequently engaged in on one's own.

SUGGESTIONS FOR FUTURE RESEARCH

As Kerlinger (1973) asserts, the main technical function of research design is to control variance. An effective design maximizes systematic variance, controls extraneous variance, and minimizes error variance.

In this study there were four independent variables, namely, year in high school, requirement, extrinsic reward and external evaluation. The latter three variables were extrinsic contingencies which intruded on the subject for the purpose of increasing the frequency of behavior. The question of the study was whether or not the increase of frequency would happen at the expense of an intrinsic motivation to perform the behavior and even more serious, at the expense of a continuing motivation to perform the behavior. Requiring helping, externally rewarding helping and externally evaluating helping are distinct from inviting, not rewarding, and not evaluating. It appears that the subjects were aware of the conditions under which they engaged in helping others at school. Furthermore, rewarded subjects found the rewards offered to

be attractive. Having maximized systematic variance, only requirement and the interaction of requirement and reward's effect on frequency of helping others proved significant.

Randomization is one of the best ways of controlling extraneous variance. In this study subjects were randomly selected and randomly assigned to groups and groups to treatments. Nevertheless, it appears that the personal variables, need for achievement, interest in religious activity, and intelligence made some impact on the findings. It seems from this study that personal variables strongly affect the extrinsic contingencies which intrude on subjects. In future studies, perhaps some control of these personal variables would result in significant results for the treatment effect.

It is known that subjects in this study were aware of varying conditions under which subjects helped others. While subjects indicated in a post questionnaire that these varied conditions did not anger or bother them, it is not clear as to how these varied expectations affected the findings. It is possible that subjects were more influenced by the fact that they were invited to take part in this special project to explore directions for the seminary of the 1980's and wanted to please the experimenter than by the treatment conditions. In the future, less obtrusive means should be used so as to minimize extraneous variance. Perhaps doing several studies with less variables involved might help lessen possible confounding effects.

While subjects did indicate that others in the study were dishonest in recording the number of times they helped at school and some admitted to their own dishonesty, the experimenter found no direct sup-

port for this dishonesty. All unobtrusive measures were recorded just as performed.

Internal validity refers to the fact that experimental manipulation is really the factor making the difference. Kerlinger (1973) emphasizes the importance of establishing internal validity before attempting to consider the external validity or the generalization of the findings in an experiment. In this study, randomization and sample size were key factors in establishing control in the experiment. Each treatment condition had twenty four subjects randomly assigned. While many of the anticipated results did not prove significant, requiring subjects to be involved led to significant results on the frequency of subjects' helping, especially in interaction with reward. This appears to be a robust finding. Future research should attempt to better control personal variables like need for achievement that could have interfered with the findings of this experiment.

External validity refers to the representativeness or generalizability of the experiment. In this study, subjects were students going to a special purpose school. The school emphasizes helping others and attempts to select students who are interested in a career working with people in a helping way. It is possible that because of the high interest in helping others, the subjects of this study were not affected by the treatment conditions; however, research has shown that high initial interest is a precondition for detrimental effects of reward and other extrinsic contingencies. Future research might look to various settings and conditions under which to explore the possible detrimental effects of extrinsic contingencies. Overall, it would seem that this

field experiment raises concern about the body of research that claims "a hidden cost to reward" when this is studied in a natural setting of a school.

Hilgard (1975) distinguishes seven types of research. The first three types are considered to be basic research and the other four types applied. This field experiment would be similar to number five in which findings from the laboratory are tried out in the "normal" classroom. In this study, previous laboratory findings about the negative influence of extrinsic reward on intrinsic motivation and the negative influence of extrinsic evaluation on continuing motivation were tried out in a school setting and over an extended period of time (eight weeks).

The study supports the research that cautions against making demands without corresponding incentives. Subjects not rewarded but required to help helped least of all subjects. Having been told they must help once every two weeks, they helped less than those simply invited to help or required but rewarded for helping. The study gives support to the common sense notion that when a person is required to do something, he/she does it less enthusiastically. When more than compliance is sought, demands and requirements may be not only potentially upsetting but also, in the long run, produce less than invitation.

The lack of significance in the effect of requirement, reward and evaluation on intrinsic motivation and continuing motivation lends support to the growing identification of conditions under which the facilitating or detrimental effects of reward happen. It seems that an absolutist approach identifying the relation between reward and motivation

as universally positive and the genericist approach dividing various rewards into those that are generically extrinsic and those generically intrinsic to activities are no longer tenable (Lepper and Greene, 1978). Lepper and Dafoe (1979) state that if children in a particular class vary in their initial values, interests, and abilities, an identical program, for example, one in which all are given rewards, none are given rewards, etc., will be likely to have very different costs and benefits for different individuals. It is the conclusion of this study that more field studies carried on over time are needed to further explicitate the conditions under which reward is facilitating and detrimental to performance, intrinsic interest, and continuing motivation. This study found that the subjects kept their interest in helping whether rewarded, graded, or required to help. They had a continuing interest in helping, regardless of whether they were rewarded, evaluated, or required to help. But they did not help as often when simply required. Inviting subjects to help or rewarding those required to help led to more helping of others measured by a self report frequency measure.

SUMMARY

There is a growing body of research (Lepper and Greene, 1978) reporting a detrimental effect on the performance of a task, intrinsic interest to perform that task, and continuing motivation to perform that task outside of the instructional setting. This experiment was undertaken to further explore these detrimental effects.

Since many of the studies exploring the effects of reward on motivation have been performed in the laboratory, this experiment was conducted in a natural setting to attempt to broaden the generalization of these findings. A school setting was selected because school is an appropriate setting for exploring the effect of extrinsic contingencies on motivation in that schools have been traditionally concerned with motivation and factors that foster and inhibit motivation. One hundred and ninety two boys (ninety six high school freshmen and ninety six high school juniors) were randomly selected from an all boys urban, Catholic, seminary high school of seven hundred and thirty five students. The performance of helping acts was selected as the experimental task in that schools are concerned with fostering altruistic behavior and altruistic behavior appears to be intrinsically motivated. Among the extrinsic contingencies commonly found in this school setting, the experimenter selected requiring students to help, rewarding them for helping, and grading them for their performance of helping acts at school. There were eight groups to which subjects were randomly assigned: (rewarded or non-rewarded, evaluated or not evaluated, required or not required). There were

twenty-four subjects in each group. The experiment was conducted over an eight week period.

It was hypothesized that extrinsic contingencies (requiring of one helping act each two weeks; giving an extrinsic, material, salient, exogenous reward chosen by the student for earning thirty-five or more points every two weeks; evaluating students with grades based on the number of times they performed helping acts in two weeks) while motivating subjects to help more often would do so at the expense of the subjects' intrinsic motivation to help (measured by Mayo's Task Reaction Questionnaire) and the subjects' continuing motivation to help (measured by Maehr's Continuing Motivation Scale). In addition, it was hypothesized that subjects exposed to these extrinsic contingencies would choose easier helping acts to perform than subjects not involved with these extrinsic contingencies.

The results showed a significant difference in the number of helping acts performed by subjects required to help and the number of helping acts performed by subjects invited to help when required helping acts were not counted. Required subjects performed fewer helping acts. Moreover, subjects required to help but not rewarded for helping helped fewer times than subjects not required or not rewarded for helping when required helping acts were not counted. Therefore, teachers need to be rather careful when forcing students to perform school tasks, since such requirements may lead to fewer acts performed than if students were simply invited to perform such tasks. It appears that requiring students to perform school tasks is easier for the student to accept and leads to greater frequency of performance when such expectations to perform are joined with rewards for students' effort.

This study gives impetus to suggestions that personal variables effect intrinsic motivation and continuing motivation. Two variables, interest in religious activity (measured by the Strong-Campbell Interest Inventory) and need for achievement (measured by Mehrabian's Questionnaire Measure) were found to be significant in predicting subjects' continuing motivation to help others. Similarly, three variables, need for achievement (measured by Mehrabian's Questionnaire Measure), interest in religious activity (measured by the Strong-Campbell Interest Inventory) and IQ (measured by the Otis-Lennon IQ test) were found to be significant in predicting subjects' intrinsic motivation in helping others.

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Plato, Laws II

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APPENDIX A

APPENDIX A

NAME: REWARD CHOICE SHEET I FOR FIRST, SECOND, AND THIRD TWO-WEEK PERIOD

DATE: _____ # 3

If you earn thirty-five points over the course of the next two weeks, you have a choice of rewards you will earn. All rewards you earn will be given to you before the end of this year.

CHECK ONE:

_____ABILITY TO CANCEL ONE JUG (Not a Saturday Jug)

_____FREE LUNCH IN THE CAFETERIA (Up to $1.50)

_____PASS FOR OFF-CAMPUS LUNCH (You pay)

_____PERIOD OFF OF YOUR CHOICE (Unless a test is being given)

_____PASS FOR THE GAME ROOM ($1.00 free games)

_____SURPRISE FIELD TRIP

_____USE OF GYM AND POOL FOR YOU AND FIVE FRIENDS OF YOUR CHOICE

_____PASS FOR EXEMPTION FROM HOMEWORK (Daily assignment)

_____PASS TO BE EXEMPT FROM DRESS CODE

_____WILD CARD

Signature: _____

Reward Earned: _____ Reward Not Earned: _____

NAME: REWARD CHOICE SHEET II FOR THE FINAL TWO-WEEK PERIOD

DATE: _____ # 4

If you earn thirty-five points over the course of the next two weeks, you have a choice of rewards you can earn. All rewards you earn will be given to you before the end of the year.

CHECK ONE:

_____FREE LUNCH IN THE CAFETERIA (Up to $1.50)

_____PASS FOR OFF-CAMPUS LUNCH (You pay)

_____PASS TO BE EXEMPT FROM DRESS CODE

_____PASS FOR THE GAME ROOM ($1.00 free games)

_____CHANCE FOR $25.00 DRAWING (maximum of 25 in drawing)

_____SURPRISE GIFT

_____USE OF THE ELEVATOR IN FINAL WEEK OF SCHOOL

_____ABILITY TO CANCEL ONE JUG (Not a Saturday Jug)

_____WILD CARD

Signature: _____

Reward Earned: _____ Reward Not Earned: _____

APPENDIX B

APPENDIX B

Be careful in keeping track of the times you do things at school to help others over the course of the next two weeks.

Turn the sheet in to Father Jerry on the day ending the two-week period.

NAME: HELPING OTHERS SHEET I FOR THE FIRST TWO-WEEK PERIOD

DAY BEGINNING: March 18, 1980 DAY ENDING: March 28, 1980

Put a check in front of the helping opportunity each time you perform it.

HELPING OTHERS AT SCHOOL:

_____Volunteering to help a teacher out at school (e.g., cleaning the blackboard, doing the bulletin board, etc.

_____Donating money to the missions

_____Donating cans to the food drive

_____Tutoring a student having trouble in school

_____Picking up litter around the school

_____Helping a student who is in a jam and needs some help

_____Going to help on the soup line

_____Organizing an activity for students to take part in

_____Volunteering to help in a student activity

_____Going out of your way to help a student or teacher in school

List any other helping acts you do at school not listed above:

DON'T FORGET: THERE IS NO OBLIGATION TO DO ANY OF THESE HELPING ACTIVITIES.

HELPING AT HOME OR IN THE NEIGHBORHOOD: List any helping acts you do at home or in the neighborhood:

Signature: _____

By signing this sheet, I am affirming that I am telling the truth in reporting the helping acts I did during this time. Everything I have reported, I did.

DON'T FORGET: THERE IS NO OBLIGATION TO DO ANY OF THESE HELPING ACTIVITIES. YOU WILL BE GIVEN A GRADE FOR YOUR PART IN THIS PROGRAM.

Be careful in keeping track of the times you do things at school to help others over the course of the next two weeks.

You will turn the sheet in at homeroom on Friday, April 25

NAME: HELPING OTHERS SHEET II FOR SECOND TWO-WEEK PERIOD

DAY BEGINNING: April 15, 1980 DAY ENDING: April 25, 1980

Put a check in front of the helping opportunity each time you perform it.

HELPING OTHERS AT SCHOOL:

_____Helping to clean up in the cafeteria (more than your own plate) before school or at lunch

_____Giving a student some money he would need for lunch or bus fare

_____Volunteering to help with a school activity at night; for example, the interviews with incoming freshmen parents

_____Volunteering to help a teacher out at school (e.g., cleaning the blackboard, doing a display, etc.)

_____Picking up litter around the school

_____Volunteering with Mr. Hogan to help clean up around school

_____Tutoring a student having trouble in school

_____Volunteering to help Fr. Bridge with work in the Library

_____Helping a student who is in a jam and needs some help

_____Volunteering to help in a student activity

List any other helping acts you do at school during these two weeks that are not listed above:

HELPING AT HOME OR IN THE NEIGHBORHOOD: List any helping acts you do at home or in the neighborhood during these two weeks:

Signature: _____

By signing this sheet, I am affirming that I am telling the truth in reporting the helping acts I did during this two-week period. Everything I have reported, I did.

Be careful in keeping track of the times you do things at school to help others over the course of the next two weeks.

You will turn the sheet in at homeroom on Friday, May 9

NAME: HELPING SHEET II FOR THE THIRD TWO-WEEK PERIOD

DAY BEGINNING: April 25, 1980 DAY ENDING: May 9, 1980

Put a check in front of the helping opportunity each time you perform it.

HELPING OTHERS AT SCHOOL:

_____Helping to clean up in the cafeteria (more than your own plate) before school or at lunch

_____Giving a student some money he would need for lunch or bus fare

_____Volunteering to help with a school activity at night; for example, the interviews with incoming freshmen parents

_____Volunteering to help a teacher out at school (e.g., cleaning the blackboard, doing a display, etc.)

_____Picking up litter around the school

_____Volunteering with Mr. Hogan to help clean up around school

_____Tutoring a student having trouble in school

_____Volunteering to help Fr. Bridge with work in the Library

_____Helping a student who is in a jam and needs some help

_____Volunteering to help in a student activity

List any other helping acts you do at school during these two weeks that are not listed above:

HELPING AT HOME OR IN THE NEIGHBORHOOD: List any helping acts you do at home or in the neighborhood during these two weeks:

DON'T FORGET: THERE IS NO OBLIGATION TO DO ANY OF THESE HELPING ACTIVITIES

Signature: _____

By signing this sheet, I am affirming that I am telling the truth in reporting the helping acts I did during this two-week period. Everything I have reported, I did.

Be careful in keeping track of the times you do things at school to help others over the course of the next two weeks.

You will turn the sheet in at homeroom on Friday, May 23.

NAME: HELPING SHEET III FOR THE FINAL TWO-WEEK PERIOD

DAY BEGINNING: May 9, 1980 DAY ENDING: May 23, 1980

Put a check in front of the helping opportunity each time you perform it.

HELPING OTHERS AT SCHOOL:

_____Cleaning off graffitti on desks or around the school

_____Helping a coach before or after a sport activity

_____Helping with a school activity at night; for example, the interviews with incoming freshmen and their parents

_____Helping to clean up in the cafeteria (more than your own plate) before school or at lunch

_____Volunteering with Mr. Hogan to help around school

_____Volunteering with Fr. Kicanas to help beautify the grounds by working on the outside of the school

_____Volunteering with Fr. Bridge to help in the Library

_____Volunteering with Mrs. Lippner to help in the cafeteria

_____Tutoring a student having trouble in school

_____Helping a student who is in a jam and needs some help

_____Picking up litter around the school

List any other helping acts you do at school during these two weeks that are not listed above:

HELPING AT HOME OR IN THE NEIGHBORHOOD: List any ways you help in these two weeks:

Signature: _____

By signing this sheet, I am affirming that I am telling the truth in reporting the helping acts I did during this two week period.

DON'T FORGET: THERE IS NO OBLIGATION TO DO ANY OF THESE HELPING ACTIVITIES.

APPENDIX C

APPENDIX C

Name ______________________ Year (circle one) 1 3

"HELPING OTHERS" QUESTIONNAIRE

Listed below and on the sheets that follow are a series of statements relating to the project of helping others that you have just completed. Please take your time and respond thoughtfully and honestly to these statements by indicating the extent to which you agree with each. Circle the best response to each statement.

---

1. There are several important abilities of mine that were required to work effectively in this project of helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

---

2. I liked the idea that I had enough freedom and responsibility to help others at school the way I wanted.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

---

3. The challenge posed by helping others at school really aroused my interest in doing this.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

---

4. My feelings while helping others at school could best be described by the word <u>excitement</u>.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

---

5. At various times I felt like I was really achieving something while helping others at school for this project.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

---

6. Because I knew what the Rector expected of me, I tried hard to do well.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

7. I tried to avoid looking like a fool in front of the others by working hard helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

8. My attempts to figure out the purpose of this project led me to work hard on the project of helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

9. In a project like this, I usually work hard on the long shot it will pay off in some way.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

10. It is important to me that others see me as doing well in this project of helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

11. There is something about helping others at school that I find very appealing.

Strongly agree	Moderately agree	Slightly agree	Neither agree	Slightly disagree	Moderately disagree	Strongly disagree

12. I enjoyed using what I consider to be a strong natural ability when it comes to helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

13. The nice feeling associated with helping others at school certainly was a determinant of how well I did.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

14. This project of helping others at school gave me the opportunity to learn something new and interesting.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

15. The freedom I had to help others at school at my own pace led me to really work hard in helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

16. I really became absorbed with the project of helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

17. The unpredictable qualities of helping others at school were quite intriguing.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

18. Helping others at school gave me the opportunity to develop new skills.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

19. After working in helping others at school for a while, I felt like a pretty competent individual.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

20. My talents were effectively utilized in helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

21. I liked the opportunity I had to decide for myself how I would help others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

22. I would describe my time helping others at school as a pleasant experience.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

23. The way the Rector behaved kept my attention centered on helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

24. I was excited by the prospect that I might do better than others at helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

25. I feel some responsibility to be a conscientious subject and not mess up the project of helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree	Slightly disagree	Moderately disagree	Strongly disagree

26. Working at helping others at school gave me a good opportunity to demonstrate my skills to others.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

27. Much of my effort in helping others at school was due to the fact that the Rector was present.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

28. There was plenty of opportunity to exercise my ingenuity and inventiveness in helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

29. After working for a while, I had the feeling that I was really good at helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

30. I felt considerable pride in knowing that I was doing well at helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

31. The project of helping others at school could accurately be described as fun.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

32. One source of motivation was the opportunity for independent thought and action while helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

33. The project of helping others at school really held my attention from the very beginning.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

34. The anticipation of approval and praise from the others present was an important factor in keeping me moving right along in helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

35. You could say that one thing that influenced how hard I worked helping others at school was the opportunity to see how effective I was compared to the other subjects.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

36. I was somewhat concerned about failing in front of the others.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

37. In order to feel like one of the group, I worked diligently at helping others at school.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

38. I felt that if I did not do well on the project, I might be "put down" by the Rector.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

39. My desire to have what I did in helping others at school evaluated in a positive light led me to try harder.

Strongly agree	Moderately agree	Slightly agree	Neither agree nor disagree	Slightly disagree	Moderately disagree	Strongly disagree

APPENDIX D

APPENDIX D

Thank you for taking part in this program to plan for the Seminary of the '80's.

Please answer the following questions honestly.

1. In this program of helping others at school, were you required to help others or was it up to you? (Circle one)

REQUIRED UP TO ME

If you were required to help, how many times were you required to help others at school:

WRITE IN NUMBER OF TIMES YOU WERE REQUIRED TO HELP OTHERS

_____

2. In this program of helping others at school, were you told you would receive a grade for your part in the program? (Circle one)

YES NO

If you were to receive a grade for how many times you helped others, how many times would you have to help to get a grade?

GRADE	NUMBER OF TIMES YOU HAD TO HELP
A	_____
B	_____
C	_____
D	_____
F	_____

If you were to receive a grade for how many times you helped others, what would happen to the grade?

3. In this program of helping others at school, were you told you would receive a reward for your part in this program? (Circle one)

YES NO

If you were to receive a reward, how many times did you have to help to get that reward?

STATE NUMBER OF TIMES YOU HAD TO HELP TO GET THE REWARD

_____

If you were to receive a reward for helping others, did you feel the rewards were: (Circle one)

a) BAD b) POOR c) OK d) GOOD e) EXCELLENT

If you did not receive rewards for helping others at school, did you know that some students did receive rewards? (Circle one)

YES NO

If you did not receive rewards for helping others at school how did you feel that some classmates were getting rewards? (Circle one)

a) ANGRY b) DISAPPOINTED c) IT DIDN'T BOTHER ME

d) I WAS JUST AS HAPPY NOT TO BE REWARDED

4. What I was most aware of in this program of helping others at school was: (Circle one)

a) HELPING OTHERS b) THE REWARD I COULD EARN

c) THE GRADE I MIGHT GET d) THAT I HAD TO HELP

e) NONE OF THESE

5. Did you know of someone who was not honest in reporting what they did to help others at school? (Circle one)

YES NO

How were they dishonest?

6. Were you honest in reporting what you did? (Circle one)

YES NO

How were you dishonest?

PLEASE ADD ANY COMMENTS:

APPROVAL SHEET

The dissertation submitted by GERALD F. KICANAS has been read and approved by the following committee:

Dr. Ronald Morgan, Director
Associate Professor, Foundations of Education, Loyola

Dr. Anne Juhasz
Professor, Foundations of Education, Loyola

Dr. Jack Kavanagh
Associate Professor, Foundations of Education, Loyola

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

11/24/80 Ronald F. Morgan

Date Director's Signature