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The Effects of "Personal Influence" on Learning, Motivation, and Commitment to Voluntary Action

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The Effects of "Personal Influence"
on Learning, Motivation, and Commitment to Voluntary Action

Daryl E. Chubin

A Thesis
Submitted to the Faculty
of The Graduate School in Partial Fulfillment
of the Requirement for the Degree of Master of Arts

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Table of Contents

Chapter	I.	Theoretical Rationale.....	1
Chapter	II.	Research Design.....	5
		Control Variables	14
		Hypotheses	17
Chapter	III.	Findings and Analysis.....	19
		Primary Analysis: Testing of Hypotheses	20
		Secondary Analysis: Collapsing of Groups	25
Chapter	IV.	Interpretation of Findings.....	32
		Efficacy of the Small Group Milieu	32
		Motivation to Learning and Voluntary Action	35
		Attitudes and Behavior: A Methodological Purview	40
Chapter	V.	Conclusion.....	44

Tables

References

Chapter I

Theoretical Rationale

Within the massive literature on attitude change can be found studies that distinguish between the informative and emotion-arousing functions of credible communications (Hovland, Lumsdaine and Sheffield, 1949; Hovland, Janis and Kelley, 1953; Katz and Lazarsfeld, 1955). Few, however, explicate the singular role of information and modes of presenting information in motivating individuals to act. The notable exceptions are Fitzsimmons and Osburn's study of the impact of television news documentaries on the knowledge, attitudes, and behavior of the viewer (1968), and Cook, Burd and Talbert's examination of the cognitive, behavioral, and temporal effects of confronting an experimentally formed belief with action implications of varying saliency (1970). Within the framework of these studies, the present research poses this question: Does a formal communication (lecture) alone and in conjunction with face-to-face informal discussion ("personal influence") predispose an individual to participate in an activity based upon information learned in the two situations?

The paramount influence of personal contact has been demonstrated in both laboratory and field settings. From the classic voting surveys of Erie County (Lazarsfeld, Berelson and Gaudet, 1948) and Elmira (Lazarsfeld, Berelson and McPhee, 1954) emerge panel data¹ and the notion that one's intimates--

¹The panel technique involves the repeated interviewing of a small sample. Here the development of preferences for candidates during the course of a political campaign was traced.

family, friends, and co-workers--would have much influence on how one thinks, feels, and acts vis-à-vis specific issues. The role of people in mediating the flow of mass media in contemporary society (Katz, 1957) becomes even more pronounced in a small group (laboratory) situation. Individuals interacting with each other relative to a particular problem which concerns all will develop a collective approach to that problem. They eventually create an opinion, an attitude, a decision, or an action which they embrace in common (Katz and Lazarsfeld, 1955:57).

The hypothesis that an individual will more readily respond to an influence attempt if he perceives that others support him in a proposed change underlies the "group decision" experiments pioneered by Lewin (1947). His work describes the effectiveness of group discussion (followed by "group decision") for achieving change. Where the group is the "medium" of change, pressure for a particular action to be taken by members of the group as individuals originates within the group (Cartwright, 1951). This pressure exerted by "others" in a milieu that fosters verbal exchange constitutes the group salience and situational cues which elicit the desired behavior (Hovland, Janis and Kelley, 1953:161-165). Pelz, in replicating Lewin's basic design, however, found that group discussion per se and public commitment were not the foremost mechanisms of influence. Rather, the whole process of making a decision and the individual's perception of group consensus generated behavioral differences comparable to those obtained by Lewin and his associates. This finding prompted Pelz to redefine "group decision" as "decision about individual goals in a setting of shared norms regarding such goals" (1958:440-444).

Thus, while social scientists acknowledge the contradictory findings of studies conducted under lab as opposed to field conditions (Hovland, 1959; Riley and Riley, 1959; Blumer, 1959:205-206; Pool, 1959:239-240), most agree that interpersonal communication (i.e., personal influence) is a variable of sociological significance (Merton, 1949; Riley and Riley, 1951; Katz and Lazarsfeld, 1955; Menzel and Katz, 1955; Rossi, 1959; Becker, 1970).

By focusing on the dispensation of information regarding drug use in the U.S., drug terminology, and facts about addicts, emphasis will be on what learning takes place as a result of exposure to different (imposed) social milieux (Hovland, Lumsdaine and Sheffield, 1949; McGuire, 1968; Fitzsimmons and Osburn, 1968). Learning will then be measured with respect to the subject's (S) willingness to behave in a manner consistent with the information gained. Rather than dwelling on the S's evaluation ("affective" component of attitude) of a social issue, this study will concentrate on making the S aware of facts ("cognitive") and on predicting who will act ("conative") on the basis of those facts, given the opportunity to do so (Thurstone, 1929; Hovland, Janis and Kelley, 1953; Krech, Crutchfield and Ballachey, 1962; DeFleur and Westie, 1963; Secord and Backman, 1964; Brown, 1965; Cook, Burd, and Talbert, 1970).

Cartwright's outline of some principles of persuasion suggests the cumulative nature of an "affective-cognitive-conative" attitude paradigm. This paradigm presupposes the creation of cognitive, motivational, and behavioral (action) structures in a group context (1949). Changes in behavior are initially dependent upon changes in one's cognitive structure (Schramm, 1948: 183-184; Merton, 1957:519). But any further effort to influence a person's

behavior

...must attempt either to modify needs (and goals) or to change the person's motivational structure as to which activities lead to which goals. This means that a person can be induced to do voluntarily something that he would otherwise not do only if a need can be established for which this action is a goal or if the action can be made to be seen as a path to an existing goal (Cartwright, 1949:302).

Hence, this approach to the communication (persuasion) process encompasses both the reception of messages (i.e., acquisition of knowledge) and its implications for potential behavior. Inasmuch as the principles are valid, Cartwright asserts,

...they should apply to all inductions (of behavior) whether through the mass media or in a face-to-face situation. They should also apply to inductions attempted for all types of purposes, whether to sell, to train, to supervise work, to produce therapy, and so on (1949:306).

Chapter II

Research Design

The generalizability of Cartwright's formulation to the realm of small group research highlights the theoretical rationale offered in the preceding chapter. By postulating the existence of internal structures which determine whether attitudinal and behavioral changes occur, the present researcher betrays a socio-psychological bent. And the method of inducing certain behavior constitutes his research design. From the following design, therefore, changes in the Ss' knowledge, motivation, and inclination to act can be systematically observed. Also from the ensuing empirical data, one can make inferences about the operation of the unmeasurable structures.

The design is patterned after the Lewin and the Pelz comparisons of the lecture and the group discussion--which is more effective for bringing about change in an individual's attitude and subsequent behavior? The study, however, is premised upon two questions raised by Fitzsimmons and Osburn:

1. What learning takes place (in each stimulus situation)?

Here the basic concern is whether or not people absorb and retain information about social issues.

2. To what extent do these (stimulus situations) affect a person's potential to behave in a manner consistent with his information (e.g., to learn more, to vote for change, and to form groups)? (1968:380).

Specifically, is a participatory instead of a passive information-getting situation more conducive to creating a norm or exposing a latent norm for acting to alleviate some social problem (in this case, drug abuse)? To reiterate a relevant research finding, Katz and Lazarsfeld reply,

Apparently, something about interacting with others relative to a proposed change, compared with the isolation of the individual in both lectures and private instruction, produces a marked behavioral change (1955:76).

That "something" embedded in the way individuals relate to each other even in an ephemeral group (which is experimentally constructed) contributes to the salience of the situation. The pursuit of this issue--whether group salience or non-involvement in an informal discussion group is the source of variation in the Ss' manifestations of knowledge and motivation to act on that knowledge--delimits the scope of the study.

Subjects were 108 students enrolled in compulsory introductory sociology and psychology courses at the Niles College (seminary) branch of Loyola University and in an undergraduate statistics class at Loyola. Each S was administered a pre-communication information exam (thirty multiple choice and true-false questions) on drug terms and drug facts. Incorporated into this instrument was a series of personal history questions (age, year in school, etc.) and a question tapping the S's predilection for volunteer work in general: "Please list the campus activities (campus clubs and organizations) in which you participate." The purpose of this inquiry is to gauge the amount of extra-curricular (voluntary) activity engaged in by the sample under scrutiny. Another question geared to the test material--the subject of drugs--was posed: "Would you be interested in participating in a volunteer program for helping drug abusers?" The response denotes "simple awareness of the problem" (Fitzsimmons and Osburn, 1968:382). Ss affiliated with two or more voluntary campus groups, including Apostolates for Niles students, and who affirm a

willingness to serve in a hypothetical activity related to drug abuse, comprise the "hi interest" group; the remainder of Ss are considered the "lo interest" group. The separate data collected on actual voluntary behavior and the endorsement of a volunteer project to allay the drug problem enables precise initial analysis of a variable monitored throughout the research.

Seven days after the pre-communication exam, Niles Ss were randomly assigned to an experimental (E) or a lecture only (L) condition. Each group heard a formal lecture on drugs delivered by a sociologist specializing in addiction research. To establish credibility, he was introduced as such.

An individual's tendency to accept a conclusion advocated by a given communicator will depend in part upon how well informed and intelligent he believes the communicator to be.... It seems necessary, therefore, to make a distinction between 1) the extent to which a communicator is perceived to be a source of valid assertions (his 'expertness') and 2) the degree of confidence in the communicator's intent to communicate the assertions he considers most valid (his 'trustworthiness'). In any given case, the weight given a communicator's assertions by his audience will depend upon both of these factors, and this resultant value can be referred to as the 'credibility' of the communicator (Hovland, Janis and Kelley, 1953:21).

During the question-and-answer period following the address in the L situation, the lecturer dogmatically answered questions without departing from the text of his paper. This procedure was intended to maximize the Ss' trust in the communicator since he was perceived as intending not to per-

suade, but just to inform the audience (Hovland, Janis and Kelley, 1953:23). Loyola (i.e., control) Ss did not hear the lecture.

Following the address in the E situation, however, nine discussion groups were formed. Each was composed of a former drug addict and 8-12 Ss. They informally discussed (for 25 minutes) drug abuse as a social issue, as well as the ex-addict's personal experiences and insights. When person-to-person influences coincide with mass media messages, they either counteract or reinforce the messages. This is the "reinforcement function" of the small albeit impromptu group condition.

And there is substantial reason to suspect, when the reinforcement is positive, the communication in question is likely to be particularly effective (Katz and Lazarsfeld, 1955:45).

Because the effectiveness or success of the communication can be measured by the breadth of factual information the S learns, the informal discussion session supplements the lecture in a cathartic way (Katz and Lazarsfeld, 1955; 80). By providing an outlet for "talking out" questions stimulated by the lecture, the "rap" session intervenes in the Ss' learning of the material.

This learning factor...operates in complicated ways in communication situations, where the time between learning and testing is not a learning vacuum. The intervening social experiences have an effect on the retention of a complex, socially significant communication (Hovland, Janis and Kelley, 1953:131).

Furthermore, the interpersonal contact removes some of the emotional insulation surrounding a given attitude or way of behaving. This is the

intrinsic reward derived from the group's clarification of the lecture material. The S's comprehension of the communication "evokes satisfying anticipations of attaining a goal or of averting a threat" (Hovland, Janis and Kelley, 1953:229). And personal influence becomes a "facilitator" of change (Katz and Lazarsfeld, 1955:81).

Thus, any active participation device which augments retention of the content of a communication may ultimately influence acceptance by increasing the chances that the content subsequently will be thought about or expressed under conditions where reinforcement can occur. One would expect this type of carry-over effect to be especially prominent in the case of persuasive communications which deal with opinions that are contingent upon retention of a high degree of information content... (Hovland, Janis, and Kelley, 1953:233).

The "feedback" of the group situation affords the S an opportunity to reformulate the communication in his own words.

It is possible that reformulation per se may give rise to a marked gain in comprehension (italics theirs) of the content and thereby augment the chances that the persuasive communication will be influential. Opinion change may be facilitated by the mere act of translating the content into a more familiar vocabulary--perhaps by making it more meaningful in that the implications of the arguments become more apparent and the conclusions more easily assimilated into the person's existing cognitive framework of beliefs, expectation, and values (Hovland, Janis and Kelley,

1953:233-234).

In sum, a climate of group discussion induces the S to improvise his own ideas in response to or support of the communicator's conclusions. Through this reciprocity the probability that the S will experience the type of reinforcements and anticipations which make for acceptance, remembrance, and behavioral change is enhanced. Indeed, this is the compelling role that personal influence plays.

Immediately after the Ss experienced one of the post-communication treatments (E or L), all completed a second thirty-question "objective"-type exam on drug facts and terminology based on the lecture. Included was a request to indicate interest in a defined activity: "Would you be willing to participate in a volunteer telephone service for helping individuals with drug problems if such a service were created in this community?" Reply to this question represents the extent of "positive solution-oriented" concern (Fitzsimmons and Osburn, 1968:382) and reveals Ss dichotomized by "hi concern" and "lo concern."

Data on a second major variable emerge here, too. Increase in drug knowledge (DK)--comparing each S's score on Test I and Test II--is due presumably to the information absorbed from the formal lecture and reinforced (in the E condition) by the unstructured interaction session with the ex-addicts. The catalytic role of the ex-addict in each E group intensifies as the group gets larger (though in this case, not exceeding twelve in number) Bales found that

...more and more communication is directed to one member of the group (the most frequent communicator), thus reducing the relative

amount of interchange among all members with each other. At the same time the recipient of this increased attention begins to direct more and more of his remarks to the group as a whole, and proportionately less to specific individuals. The communication pattern tends to 'centralize,' in other words, around a leader through whom most of the communication flows (Katz and Lazarsfeld, 1955:89-90).

Although the leadership of the ex-addict was built into the E condition, it becomes "sanctioned" when the Ss gain cognizance of an addict's presence. He becomes tacitly "nominated" as a situational leader "by virtue of his social location" in the group. His leadership inheres in the structure of the evolving pattern of communication. But moreover, the former addict is a "culturally certified" leader who influences others because he occupies a position in the group. It is the group's particular culture or frame of reference which endows the addict with the "right" to influence (Katz and Lazarsfeld, 1955:99).

Leadership may refer to the point of origin of a plan or an idea, to the sanction of the idea, or to the diffusion (*italics theirs*) of the idea. An individual qualifies as a key communicator if he fulfills any, or all of these roles. (Katz and Lazarsfeld, 1955:109).

While the Ss ascribe to him the status of an "authority," they can relate to him as a "peer" in every other way--age, appearance, general interests. Indeed, the ex-addict is both certified and approachable, ideal qualifications for a "discussant" in the E treatment.

DK scores of control Ss exposed neither to the lecture nor the discussion reflect individual information-getting behavior in the span between adminis-

tration of the two exams. The contention is that the latter DK scores will represent curiosity aroused by the first exam which motivated the S to pursue the drug topic and learn relevant material on his own.

Three days after the post-communication exam, a mimeographed "flyer" inviting students to volunteer for the Maine Township "Hot Line" (HL) was deposited under the door of each S's room (campus residence). This memo instructed him to sign up for the "training session" to be held fourteen days hence. There was a booth prepared at the rear of Niles' student dining hall for the purpose of volunteering. Only one evening hour (5:30-6:30 PM) on two successive days, however, was allotted for this purpose. Though action (i.e., signing up) does not signify a final commitment to the HL program, it does signal a readiness to translate recognition of the problem (Test I) into constructive activity to abate the problem. "Hi commitment" or "lo (lack of) commitment," therefore, denotes the transition from an action orientation (Test II) to "action implications" (Cook, Burd and Talbert, 1970:359). Control Ss were excluded from the voluntary activity, i.e., they were not formally notified about volunteering.

Because commitment as a behavioral tendency is a crucial variable antecedent to "action" (not measured per se in this study), it is considered a primary outcome variable. Since the ostensible reason for the study (and for the sustained cooperation of the students) was given as "an experiment in knowledge decay," a third DK exam was administered to all the Ss midway between the distribution of flyers and the scheduled training session. This thirty question objective exam measured the amount of decay (forgetting) in DK over time (four weeks) among the three treatment groups (Hovland and Weiss,

1952; Hovland, Janis and Kelley, 1953:30-41; McGuire, 1968:254-258).

Several researchers report that the more completely material is initially learned the longer it will be remembered. This claim harbors important implications with respect to the repetition of major points, if their retention is deemed desirable by the researcher. Consequently, 30% of the questions appearing on DK Tests II and III were identical to or adaptations of questions asked on the previous exam. The recall and "relearning" of detailed factual information warrants these repeated presentations (Hovland, Janis and Kelley, 1953:248). Also,

the extent to which communications will be retained would be expected to be affected to a significant extent by the motivations and interests of the audience. These will affect not only the quantity of the material which will be retained but also certain of the qualitative features of what is retained...The degree of interest in material affects the extent to which the individual will learn the content of the communication. How well it has been learned will then affect how well it will be retained. This is a phenomenon with which we are all familiar: we learn what we are interested in (Hovland, Janis and Kelley, 1953:249-250).

Thus, past research recommends the usage of a third DK exam for rendering the study more "legitimate" from the S's perspective and lending continuity to the investigation as a whole (Hovland, Lumsdaine and Sheffield, 1949; Lana, 1959; Rosnow, 1966).

Action (i.e., the act of volunteering) can finally be examined in reference to cognitions about drugs progressing from interest to concern to

commitment and paralleled by an increase in drug knowledge. Posited as the central variable differentiating commitment to a voluntary program from non-commitment is the motivational influence of personal contact.

Why assign Ss to either an E or L treatment? The inclusion of an "equivalent control group" that has not been exposed to the formal communication, but for whom the same knowledge measures and personality measures are obtained, is a check on various artifacts. These artifacts may give rise to spurious relationships between a given trait and the amount of knowledge change (Hovland, Lumsdaine and Sheffield, 1949:329-340). This "controlled exposure design" is capable of yielding results which show how people on different levels of a personality dimension are influenced by different communication milieux.

Control variables. The personality dimension selected in this study is "closed-mindedness"--one aspect of the individual's total belief system "discovered," conceptualized, tested, and revised by Rokeach (1961). The past decade, however, has witnessed a vigorous debate in the literature on the relation of intelligence to open- and closed-mindedness. Hence, an academic aptitude score based on the verbal section of the SAT (derived from the student's admission records) and a Rokeach Dogmatism Scale score were obtained for each S. These scores are hypothesized as accounting for, respectively, the S's capacity to learn and his receptivity to new information, regardless of topic (Rokeach, 1961:286; Fitzsimmons and Osburn, 1968:381).

Rokeach's Dogmatism Scale was designed to measure individual differences in the extent to which belief systems are open or closed (1961:72). After defining dogmatism as "resistance to change of a total system of beliefs,"

Rokeach assessed the contribution of intelligence to the construct. He found a correlation of $-.02$ between intelligence (as measured by the American Council on Education test) and scores on the Dogmatism Scale, and concluded that "findings in the present experiment cannot be accounted for by differences in intelligence" (1961:190-191). Zagona and Zurcher's data (1965a) also yield a small negative correlation, but more significantly, support the validity and test-retest reliability (for both high and low dogmatics) of the construct. Ehrlich's findings (1961) corroborate two related hypotheses: that dogmatism is inversely related to classroom learning of sociology and that academic aptitude and dogmatism are independent. Christensen's replication supports only Ehrlich's second hypothesis, while providing "no evidence that dogmatism is related to classroom learning of psychology or differentially related to abilities to synthesize or analyze" (1961:76). Frumkin reports that low dogmatic individuals are more likely to earn high grades in sociology than individuals who score high on Rokeach's Dogmatism Scale.

A primary task for the sociology instructor (is) to help the student to unlearn these myths which dominate his conception of human behavior so that he might be free to gain objective knowledge about man's behavior and nature...biased, dogmatic individuals generally have a difficult time doing well in sociology courses (1961:403).

Ammunition for those espousing an intelligence-dogmatism interdependency comes from Zagona and Zurcher's study of 517 freshman college students enrolled in psychology classes at a western university (1965b). They explain that the differences in performance found by Rokeach between high and low dogmatic in-

dividuals solving various integration- and synthesis-type tasks are relatively independent of intellectual (verbal) ability. "A statistically significant ($p < .01$) relationship exists between factors generally associated with intelligence and scores on the Dogmatism Scale" (1965b:219).

Similarly, Ladd's data (1967) reveal that closed-mindedness hinders initial adaptation to concept-learning more than the capacity to solve such problems, and that academic aptitude (measured by ACT scores) is positively related to concept-learning proficiency. In Fitzsimmons and Osburn's study "verbal intelligence is an important factor in the learning of SIPA (social issues and public affairs) materials," although "open-mindedness, as measured by the Dogmatism Scale, failed to predict information gain and changes in attitudes, attitude dimensions, or potential behaviors" (168:390-391).

Finally, Ehrlich and Lee caution that

for some (cognitive) systems, open- and closed-minded persons will not differ in their rates of learning or change...but Rokeach's principle that high dogmatics are less able than low dogmatics to learn new beliefs was upheld (1969:259).

Fortified by abundant data, the present research utilizes indices of intelligence and dogmatism (Form E of the Rokeach Scale plus ten "dummy" items mostly from the Adorno et al F Scale) as control variables. In this way, disparities in the learning of drug information and subsequent voluntary action can be attributed to the experimental factor rather than to the a priori assessment of intellectual (verbal) ability and the cognitive processes of "the closed mind."

Hypotheses. The theoretical import of personal influence and its operationalization in this research design dictates the proposal of the following major hypotheses. Since the experimental treatment is vital for the retention of DK materials presented in the lecture, Hypothesis 1 (H_1) states:

The mean DK score (Test II) for the E group will be significantly greater than the mean DK scores for either the L or C group. In operational terms, $DK_E > DK_L \geq DK_S$.

Likewise, it is anticipated that the empathy and concern engendered by the personal contact (i.e., informal discussion) of experimental Ss with the ex-addicts will be manifested by a positive response to the post-communication inquiry (about prospective participation in a service instituted to combat the drug problems of local youth).

H_2 : Ss exposed to the E condition of personal influence will respond positively to the question "Would you volunteer for telephone service in a program designed to assist individuals with drug problems, were such a program established in this community?" to a significantly greater extent than those Ss not exposed (both L and C).

When the opportunity to volunteer for the HL program arises, the notion of "commitment to solution-oriented action" stressed in the E encounter will again motivate those Ss involved in the "interaction treatment" groups.

H_3 : The percentage of E subjects who actually volunteer (sign up) for HL service will be significantly greater than the percentage of L subjects.

These three hypotheses encompass the process of converting factual

information, curiosity, and conversation with "culturally certified" sources into a demonstration of "personal responsibility" (Fitzsimmons and Osburn, 1968:384). Thus, both "learning" and "experience" (originating in and circumscribed by this experiment) are linked to purposive activity.

Assuming the equal distribution of SAT and dogmatism scores within the E, L, and C groups (homogeneity of variance), a one-way analysis of variance will be performed (Walker and Lev, 1953; Hays, 1963; Edwards, 1967). Indicators of a growing predisposition to act in consonance with one's knowledge and experience consist of endorsement of a particular program and eventual commitment to volunteer service in that program. Ultimately, then, this thesis specifies how knowledge and experience manipulated in the present experimental context will affect observed action.

Chapter III

Findings and Analysis

Due to the populations involved, there exists a peculiar breakdown in the demographic characteristics of the Ss. The E group (N=54) accounts for one-half of the total number of people in the experiment. All of these Ss are seminary students at Niles College, as are the 33 comprising the L group. Whereas the E Ss are slightly older and one semester ahead of the freshman L Ss, and the 21 C Ss drawn from an undergraduate social statistics course at Loyola are, on the average, more than three years older and of second-semester junior class standing. Admittedly, two distinct academic populations are represented here (see Table 1), but as will presently be shown, these potential biases inherent in the samples are experimentally controlled.

The use of SAT and Dogmatism Scale Scores anticipates the possibility of spurious results by discerning significant differences in intelligence and open-mindedness across groups. By identifying that the capacity of the Ss to learn new material and their cognitive disposition to do so does not vary significantly among respective groups, we can attribute any subsequent disparities in behavior to the differential experimental conditions. As seen in Table 2, nothing intrinsic to the members of the three groups so composed will either facilitate or hamper their later performance. We may conclude that the two "traits" measured in Table 2 are randomly distributed

throughout the 108 Ss participating in the research.² In personnel, therefore, the three groups are qualitatively (i.e., psychologically) comparable.

Primary Analysis: Testing of Hypothesis. The comparability of the groups in intellectual ability and belief systems has been ascertained. Now we can assess the amount of drug knowledge the Ss possessed prior to experimental exposure. Table 3 reveals that all three groups were approximately equally knowledgeable about drug facts and terminology. This finding legitimates the formal lecture as a stimulus situation where new information is systematically presented. The way this information is processed and the extent to which it is retained are implicit in the structure of the two experimental treatments. In the L treatment, the 25-minute presentation by a credible communicator was followed by a question-and-answer period. Here, the audience (Ss) was restricted to an essentially passive role in asking questions, while the communicator was instructed to confine his answers to the text of his

²Decreased N's are due to the permission to use SAT scores and administration of the Dogmatism Scale--both of which appeared as part of the third instrument. Because some Ss refused to permit the Registrar from releasing their SAT scores or never took the test as a college entrance requirement and others failed to complete and return the third instrument, all groups N's were depleted. Of critical import is the attrition rate for the two experimental conditions. Chi-squares computed for Ss not taking the SAT and the Dogmatism Scale are 0.07, 1 df and 0.22, 1 df, respectively. These non-significant chi-squares indicate that attrition did not differ across E and L conditions.

paper, i.e., his remarks were reiterations of, rather than elaborations on, statements previously made.

In contrast, the E Ss, after hearing the identical address, were divided into six 9-12 man groups. A young ex-drug addict was assigned to each where, as a "culturally certified" leader, he conducted an informal discussion on the topic of drugs. Postulated as a supplemental information-getting device, this interpersonal exchange situation becomes a medium for the flow of "personal influence" from addict to S (and S to S). This post-lecture E condition is therefore hypothesized as reinforcing the material presented in the formal communication and facilitating its retention. Using the DK scores for Test II, this hypothesis (H_1) was tested. Inspection of Table 4, however, shows that the predicted difference in learning between the E and the L groups did not occur. In fact, Ss experiencing the L treatment earned a higher mean score than the E Ss. The overall F-value of 11.78 for the analysis of variance denotes that some difference among treatments exists. It suggests that the Ss experiencing the two experimental treatments learned more than the C Ss who were not exposed to the informative message. A significant difference between the pooled E plus L mean and the C mean confirms ($t=5.25$, $p<.001$ for a two-tailed test) the efficacy of the lecture vs. no communication, but refutes the hypothesized reinforcement function of personal influence in the interacting small group.

An underlying theme of this research is that the bond between what one knows and what one does is intimate indeed. By measuring the degree of one's general voluntary behavior (extra-curricular service activities) and his propensity to volunteer for a program based on a community need to assuage, if

not eradicate, the problem of drug abuse, the profundity of that bond can be demonstrated. Besides yielding measures of DK, Tests I and II trace the development of an attitude consonant with that knowledge by (1) estimating the extant level of the Ss' participation in volunteer activities, and (2) engendering interest, concern, and finally, commitment to a specific program. The research and instruments were so designed to create awareness of a problem and supply a goal for its "resolution." What is distinctive about this means-ends schema is that the experiment sought to impel the Ss (through the dispensation of information) to adopt an "action orientation" for achieving the goal (by volunteering).

Despite the moderate percentages of "high voluntary" participation (two or more activities) by E and L Ss (29.6% and 30.3% of each respective group), the interest and concern in a drug-related activity elicited via lecture and discussion are provocative. Table 5 indicates that there was virtually no difference between the percentage of E and L Ss who were "interested," while more than half of the C Ss--none of whom qualified as "high voluntary participants"--were interested in an activity (as yet undefined) for combating drug abuse. Furthermore, the C group, without the benefit of the lecture or the addict encounter, heightened its empathy over time, whereas the "positive solution-oriented concern" of the E and L groups diminished. The combined percentage "concerned" of these latter groups is significantly smaller than the C group's percentage ($p < .10$).

This finding negates H_2 which states that E Ss will respond positively to the question "Would you volunteer for telephone service in a program designed to assist individuals with drug problems, were such a program estab-

ished in this community?" to a significantly greater extent than either L or C Ss. Not only is this hypothesis not borne out empirically, but the rank-order of concern is seemingly reversed with C Ss manifesting the greatest willingness to engage in the emergency telephone program (see Table 6). Perhaps this concern explains the absence of decay in the C group's third DK exam scores. Contrary to the debilitating effects of time in dissipating the amount of DK retained--a "normal" phenomenon--the C Ss improved their mean knowledge with the two-week increment of time. Again, by pooling the E and L means for Tests II and III, the mean decay for Ss in the experimental treatments can be compared to the "decay" of the C Ss. The forgetting of the former Ss was negligible ($t=0.78$); the increase in DK of the C Ss, however, is impressive ($t=3.18$, $p<.01$ for a two-tailed test) and defies explanation at this point.

Considering the serendipitous content of the findings thus far, the third major hypothesis of this study emerges as unique in its simple discreditation. Partly because only twelve of the 87 Ss in the E and L groups (13.8%) signed up for HL service, the percentage of E Ss who volunteered was not significantly greater than the percentage of L Ss, as noted in Table 7. The modicum of difference between the two percentages does not even warrant statistical rejection, though a test was performed (non-significant at .10).

Before summarily dismissing the motivational influence of "learning" and personal contact as they were experimentally operationalized and manipulated, one can dwell briefly on the process of assimilating information over time. This incorporation and recollection process has here been termed "relearning" and refers solely to those items on Tests II and III which

appeared almost verbatim on each preceding exam. An item analysis of Test II shows that 23.3% of the questions were repeated from Test I and 36.6% of Test III material was introduced on Test II. The analysis of variance for these select items discloses that the differential treatments were non-trivial and somewhat effective (see Table 8) in imparting information which was readily recalled by subsequent DK exams. A post hoc test of the pooled E plus L mean vs. the C mean supports the relearning hypothesis ($t=4.50$, $p < .001$ for a two-tailed test) that repetitive presentation of a question (e.g., "The highest incidence of drug use is found in a. medical professionals, b. clergy, c. college students, d. minority groups.") discussed in the lecture and/or small group was internalized by the E and L Ss.

Nevertheless, in the interim between administration of Tests II and III, decay takes its toll, depressing relearning scores for both experimental aggregates on the one hand, and inflating the mean score of the C group on the other.³ This regression phenomenon for relearning scores replicates and amplifies the data in Table 6. Therein the relative level of DK for each group and its evaluation vis-a-vis scores for Test II are portrayed. In short, the inevitability of forgetting is tantamount to a consistency in relearning: both are predictable across groups. Their manifestations, however, vary with experimentally-induced "learning" and "experience" or the lack of each.

³This is not evident in Table 9 since more items were inadvertently repeated on Test III and no standardization procedure, e.g., converting to proportions or adding a constant, was employed.

Secondary Analysis: Collapsing of Groups. Since the E condition unsuccessfully evoked the hypothesized behavior (superior DK gain and higher levels of concern and volunteering), it seems fruitful to reassess all S according to criteria peripheral to the central focus of the research. Before abandoning the original group design and dichotomizing the Ss by "hi" and "lo" participation in extra-curricular voluntary activities and by "hi" and "lo" interest (Test I), a fleeting glance at the trichotomy must be cast. This perusal should lend credence to the decision to dissolve the experimentally-delineated boundaries between treatment groups.

When interest is linked as an independent variable to Test II and DK scores, the means for each group divided into "hi" and "lo" segments barely differ. Across groups, the disparities in means are compatible with the findings reported above. However, when the groups are collapsed, thereby neutralizing the treatment effects, those Ss professing "lo" interest achieve higher DK scores on Test II (see column 1 of Table 10). The resultant t-value of 2.19 is significant at the .05 level of probability (for a two-tailed test). Thus, Ss can be motivated to learn though devoid of any interest in a volunteer activity predicated on the material learned. This lack of enthusiasm transcends group affiliation (and differential "experience"), but begets speculation by this researcher on the operation of another factor.

A realignment of the "lo" interest Ss by the variable of extra-curricular

service⁴ produces no discernible differences in mean DK scores on Test II. When "hi" interest Ss are distributed with respect to voluntary behavior (Table 11), the mean difference is formidable ($t=2.63$, $p<.02$ for a two-tailed test). To conclude that a volunteer "set" or predilection to participate in service-oriented organizations prompts the learning of technical information relevant to the service would be facile and incorrect, especially since "lo" interest Ss excel when dimensions of voluntary action are disregarded (as conveyed by column 1 of Table 10).

To confound the picture even more, the impact of interest on DK decay can be gauged. Do "hi" and "lo" interest equally sustain the magnitude of DK over time? By surveying the first row of Table 10, we notice that the mean DK scores of "hi" interest Ss did not decay over time. Instead, the opposite tendency (similar to that evinced by the C group) appears: an accretion of knowledge over time. A t -value of 1.93 ($p<.10$ for a two-tailed test) verifies albeit weakly this gain.

Still another look at Table 10 (row 2) shows that conventional, though not statistically significant, decay plagues the "lo" interest group. Likewise, if we shift from a longitudinal to a cross-sectional perspective, we observe (in column 2 of Table 10) little absolute difference in the means for the "hi" and "lo" interest group. Indeed, "hi" interest endures in the

⁴Using the intuitive criteria of two or more voluntary activities as "hi voluntary behavior" and one or less as "lo voluntary behavior," a preliminary test of the independence^c of this and the interest variable was performed. The resultant chi-square of 0.036 (106 df, not significant) supports the hypothesis of attribute independence.

long run and "lo" interest prevails when DK is evaluated at a particular instant (Test II). The net effect is a learning impasse: both groups gravitate toward a mutual level of DK. In essence, time and interest cancel each other out.

The "concern" component represents another possible antecedent to learning. Curiously, only minute differences in DK means for Test III exist within each treatment group--E, L, and C--and between the two contingents of Ss reconstituted by the "concern" and "no concern" responses solicited on Test II. This means that either (1) incipient interest exceeds "personal responsibility" (or concern) in forecasting who will learn more or (2) that time is a more potent intervening variable in eroding DK than "hi" interest and concern.

The issue of continuity between interest and concern--whether the S is interested in the beginning in any activity salutary to the drug abuser and is correspondingly concerned about its success--merits more detailed investigation. For an attitude which integrates these two operationalized phases will dictate unequivocal support for the telephone service formally proposed on Test II. Conversely, a S asserting "hi interest"--"no concern" or "lo interest"--"concern" reflects a neutral or transitory posture toward the issue--an issue more arduously defined by the "HL flyer" distributed to foster an "action orientation." Thus, as the time for volunteering draws near, the requests for commitment become more specific and urgent. Is the affinity, then, between interest and concern concomitantly strong?

Table 12 depicts a series of contingency tables for two subsample of Ss--the 79 who completed all measures and the 29 who presumably lost

interest in the experiment and withdrew after Test II. The significant chi-squares of both testify to the high probability of association between attributes. Not only does the H_0 of independence not hold, but the strength of the interest-concern association for each subsample as computed for Pearson's coefficient of contingency⁵ (0.61 for N=79, 0.52 for N=29, 0.61 for total N=108) is substantial. These data signify the cumulative nature of the interest-concern proposition. Its promotion by experimental tactics seems certain (even in the abortive subsample). A lingering question, however, is to what extent were most Ss predisposed to endorsing any social action program, i.e., were the Ss attitudinally committed to "change" when they entered the experiment or were they selectively subscribing (by expressing interest and concern) to the problem at hand and the service created to relieve it?

In the cumulative process of penetrating the S' cognitive structure and instilling in him a consciousness of the drug problem, "concern" embodies that portion of the message that just precedes the behavioral (and consummatory) facet of the experiment --the signing up for volunteer service in the Hot Line. As evidenced in Table 13, the association between the variables of concern and volunteering for HL duty is statistically uncorroborated ($\chi^2_c=0.043$ with Yates' correction for continuity). But moreover, if one concentrates momen-

⁵The maximum C in a 2X2 table equals $\sqrt{\frac{t-1}{t}}$, where t equals the number of rows in the table. Therefore the C_{max} here equals 0.707. For a sophisticated treatise of alternatives to chi-squares based measures of association for nominal data, see Costner, 1965, or McGinnis, 1958.

tarily on column 1, he surmises that twice as many Ss who signed up admitted "no concern" compared to those affirming "concern," the low N notwithstanding. This finding, too, defies all (theoretical and experimental) expectation.

Comprising the "residual" analysis is the relation of general voluntary behavior to the primary outcome variable--volunteering for the HL. Table 14 validates that such an association is statistically tenable ($\chi^2=3.22$, $p<.10$), though not overwhelming. Much can be inferred from this datum, yet much is sheer conjecture. Is a voluntary behavior "set" operating? Are people who participate in many voluntary activities and organizations just joining another when they sign up for the Hot Line? Do "joiners" discriminate among "causes" and choose where they prefer to expend time and energy? Or is it just fashionable to be part of a movement oriented towards a contemporary social problem like "drugs and youth"?

An alternative to this "positive association" interpretation is one that explores the interdependence of "lo" voluntary behavior and non-volunteering for the HL--the modal category in Table 13. If most college students do not usually volunteer their services at all, then why should they volunteer for the HL? Non-joiners are simply non-joiners, irrespective of the cause or movement involved. Thus, this "negative" or non-association proclivity complements, and simultaneously promulgates, the notion of a volunteer "set" or desire to affiliate with a multitude of "in" action groups (perceived as organs of social change).

A foremost consideration is also the population from which 80.6% of the Ss in the experiment was drawn, i.e. seminary students. These students are encouraged as part of their preparation for the priesthood to render some

voluntary community service called an "Apostolate." Working in a hospital or nursing home, teaching catechism in local elementary and high schools, conducting community seminars and masses, and organizing community social and day-care centers in ghetto areas are typical activities subsumed under the Apostolate, which has become institutionalized as requisite for the "formation" of the seminarian.⁷

Perhaps this and other obligations incumbent upon the Niles Ss precluded their participation in the HL program. Their academic situation and spiritual training, however, propitiate the signing up of a large proportion. This seems commensurate with the "personal responsibility" the students should more readily manifest. Ostensibly, commitment to voluntary action was not forthcoming. One, therefore, is compelled to recognize that the mundane realities of time and prior commitment militate against extra-curricular volunteering. Doubtless, experimental shortcomings proposing an objective, offering knowledge and experience as an incentive, and motivating individuals to express interest and concern in the appropriate channel can be cited.

Before the shortcomings of the design are probed in the following chapter, a methodological addendum seems fitting. The measures functioning as control variables--the SAT and Rokeach Dogmatism Scale scores--are amenable to more extensive analysis. Especially in deference to the diverse, and somewhat incongruous, findings in the Dogmatism literature, a correlational analysis of intelligence and closed-mindedness seems obligatory.

⁷My thanks to Bruce Such for this and other insights into the Niles College population.

Of greatest empirical import is the correlation coefficient for SAT and dogmatism scores of the 57 Ss on whom all measures were obtained. The $r = -.255$ indicates an inverse relationship between the Ss' capacity to learn new information and the receptivity or willingness to assimilate such information into their cognitive structure. To test the $H_0: r=0$, we transform the data-bred correlation into a t-value of 2.04 which is significant at the .05 level of probability. Similar efforts to relate SAT-DK gain and dogmatism-DK gain yield diminutive correlations (less than 0.00) for both the N=57 subsample and the N=79 subsample which includes 22 who lack SAT scores. Partial correlation coefficients were concomitantly small.

Thus, the recent trend in the literature is supported by the negative linear relationship deduced from the present data. This relationship, however, is reported with reservation until larger samples more representative of the secular college population are secured and tested. This impediment to the research of unique collectivities means, in the end, constricted generalization--and reliability--of findings.

Chapter IV

Interpretation of Findings

The failures of the research design are manifold in that the three explicit hypotheses were empirically unfounded. In re-examining the formulation we can pursue two heuristic goals--interpretations of the present data as they append to the burgeoning literature and implications for future experimentation.

Efficacy of the Small Group Milieu. Suffice it to say that the demarcation between treatment groups lacked clarity. Apparently, execution of the prescribed behaviors could have been more stringently controlled. For example, the post-lecture discussion session where the ex-addicts exercised personal influence was structured to enhance the drug knowledge of the E Ss. This was supposedly accomplished through the "improvisation" of Ss in verbalizing points made in the lecture and the reinforcement of that factual information by the addict-authority. Whether such behavior ever materialized prompts two critical observations about the quality or content of the subject-addict exchange and the duration of the discussion session. The researcher suspects that the ex-addicts substituted the communication of personal experiences and technique (e.g., how to "skinpop" a drug, what sensations accompany the "nod," or what are typical symptoms of heroin withdrawal) for an elaboration of facts set forth in the lecture. Because the addicts were not constrained to comment on the various terms or statistics transmitted in the formal address, those elements could have escaped the S who was not asked to deliberate on something to which the addict neither directed his attention nor reinforced.

Pertinent, too, is the insufficient time that was allotted for the interpersonal contact situation. An expansion of the 25 minute period to 45 or 60 minutes would serve a dual purpose. First, it would expedite the addicts' nomination, location, and cultural certification as a "facilitator" of learning in the group (Katz and Lazarsfeld, 1955:81). As the addict qua leader becomes sanctioned as an "informational social influence" (Deutsch and Gerard, 1955:629), the Ss are apt to accept information from him as "evidence about reality." Between "the expression that he gives and the expression that he gives off" (Goffman, 1959:2), the addict capitalizes upon situational cues to embellish his image and aggrandize his status in the group (Alexander and Epstein, 1969:383, 393). Only then can he evoke a "definition of the situation" (Thomas and Znaniecki, 1927:68) in the Ss' minds which concretizes his (1) personification of certain values (who he is), (2) his competence (what he knows), and (3) his strategic social location (whom he knows) (Katz, 1957:205). Hence, the Ss' perception of the addict validates his role and his performance. The subsequent flow of influence has been anticipated by two diametric approaches to the phenomenon: Heider's "interest in the cognitive structures of causality attribution" and the "interpersonal imputation processes" that form the very core of classic symbolic interactionist theory (Alexander and Epstein, 1969:382). This initial perception will not only be a determining factor in learning the material presented in the lecture, but will have "a persisting effect on the remembering process" (Hovland, Janis and Kelley, 1953:252).

By interpolation, the interface of S and addict (or leader and follower) constitutes the former's justification as a "significant other" in a temporary

version of the Meadian concept. His salient position in this contrived small group⁸ is both a function of the information he disseminates (even indirectly) and the attitude(s) he alters.

Structural factors influence the kinds of significant others to which ego is exposed, and the kinds of information that those significant others communicate to ego, and that information... provides the basic corpus out of which he sets his attitudes. That information is evaluated in terms of its consistency with previously accumulated information (i.e., other related attitudes) and results in the new attitude (Woelfel and Haller, 1971:76-77).

In this sense, the affective and cognitive components of the E S's attitude are modified by the discussion session. Lewin's pioneer work is once again supportive:

decision in a group setting seems to be effective even if the group is not a permanent organization (1947:430).

But no such decision was ever reached in the small groups because the leader never ended the discussion with a request that individuals publicly announce their decision regarding the prescribed action. Since the Ss were never so informed, their intentions never became known, and their participation in the Hot Line was never overtly enlisted. Logistically, therefore, the design

⁸ Though small in size and featuring informal face-to-face contact, this group does not fulfill the rest of Cooley's (1909) comprehensive "primary group" definition--relative durability and "manifold, or more or less un-specialized, purpose."

violated Lewin's basic procedure.⁹

Just as the E treatment encouraged spontaneity, so did it discourage uniformity in the substance of the verbal exchange transpiring in each group. Briefing of the addicts as to the tenor and purpose of their remarks is a sound precaution. Without it, "personal influence" can be irrelevant to the specified objective of the experiment.

Motivation to Learning and Voluntary Action. Apart from the finding (see Tables 4 and 8) that E Ss did not learn more despite structural conduciveness (Hypothesis 1), their interest and concern were inordinately low relative to the C group (see Table 5). How do interest and concern affect learning and the retention of DK? Though the current findings are not unprecedented, they are uncommon. Fitzsimmons and Osburn report that Ss, prior to exposure, were (1) already moderately willing to go out of their way to gain further information, (and) (2) personally willing to devote some volunteer time... (1968:388).

Table 12 reveals the Ss' similar inclinations and their impact on Hypothesis 2. Even if we assume that the audience initially has only a rather passive interest, then the arousal of motivation to learn the message is essential for a gain in drug knowledge.

⁹It may have also deviated from ideal small group size of 3-8 and had an inhibiting effect on the Ss. Although Bales and Homans agree that this large membership will "centralize" the communication pattern around the leader, others argue that the leader's influence is thereby attenuated. See Katz and Lazarsfeld, 1955:88-90.

Retention may also be affected by the degree to which the person is motivated on subsequent occasions to try to recall the material learned. Degree of motivation frequently affects the degree to which the individual will rehearse the material he has learned (Hovland, Janis and Kelley, 1953:250).

"Rehearsal" or "improvisation" in the small group milieu proved ineffectual. But drug knowledge scores also vacillated because too little information was repeated on each exam. Thus, instead of "relearning," Ss were required to assimilate new material that was presented on each exam. Perhaps this task accounts for the erratic means of the groups computed in row 1 and column 1 of Table 10. The plethora of terms and facts dispensed in the formal communication (lecture) and on the three drug tests may have overloaded the cognitive apparatus of the Ss who either "tuned out" or selectively filtered fragments of information into their minds.

Fitzsimmons and Osburn, in testing the Hyman and Sheatsley "selective perception" hypothesis (1947), found that there was no discernible influence of initial attitude positions on the learning and retention of pertinent information. Yet virtually all Ss who scored low on the pre-experimental test of knowledge about television news documentaries proceeded to learn a great deal, and often revised their attitudes toward this journalistic approach to public affairs and social issues. They conclude that "the experience of 'finding out how little one knows' may facilitate change" (Fitzsimmons and Osburn, 1968:392). Future studies on the dynamics of learning would profit from the repetition of at least 50% of all material in a series of "technical" knowledge exams.

From Hypothesis 3 we have inferred that the commitment of the E Ss was no greater than that of the L Ss (see Table 7). This finding impels one to search for a clue to understanding the alliance between motivation and action (signing-up). Lewin advises us

to study the particular conditions under which a motivating constellation leads or does not lead to a decision or to an equivalent process through which a state of 'considerations' (indecisiveness) is changed into a state where the individual has 'made up his mind' and is ready for action, although he may not act at that moment (1947:428).

This underpinning of Lewin's research converges with the present thesis that lecturing may lead to a high degree of interest. It may affect the motivation of the listener. But it seldom brings about a definite decision on the part of the listener to take a certain action at a certain time. A lecture is not often conducive to decision (1947:428).

Katz and Lazarsfeld venture that

the individuals in the lecture and private situations might even have been as 'motivated' to change as those in the discussions, but that the chances of translating their motivations into action were considerably reduced when the action demanded unilateral departure--as far as these individuals knew--from some socially accepted way of doing things (1955: 78).

If volunteering was inhibited in this way, then a favorable attitude toward the Hot Line was not embedded in perceptions that the attitude object (i.e., the Hot Line) would "guarantee" need satisfaction. Indeed, change in an attitude was attempted by increasing the S's awareness of the instrumentality of the attitude object for attaining a specified need rather than an indirect orientation toward multiple needs or values (DiVesta and Merwin, 1960:285).

Whereas attitude shifts may act as an intermediary between information gain and adoption of an action orientation (Fitzsimmons and Osburn, 1968:390) this orientation or commitment is in itself not motivating (Kiesler, 1968). Furthermore, unless the attendant cognitions have reward-cost implications for the chosen course of action they will have no effect on the person's cognitive work and will themselves be unaffected (Gerard, 1968).

The data presented in Tables 10 and 13 negate the confluence of motivation, information, and commitment on voluntary action. Yet this finding has bifurcated roots in the social science literature. Fitzsimmons and Osburn detect no relationship between information gain and changes in potential behavior in reaction to television documentaries (1968:390), while Cook, Burd, and Talbert conclude that

if the opportunity to perform an attitude-relevant act is not made immediately available, then the (presumed) attitudinal predisposition to perform the behavior will become progressively less strong as time goes by. What this makes salient is that tests of the relationship between attitude and behavior should assess attitude and behavior immediately after receiving a message, if

this is possible (1970:368).

Did delayed administration of the DK tests interfere with the reinforcement mechanism of personal influence as it impinged on the conative (behavioral) aspect of the S's attitude? Heider (1958), we believe, would nod affirmatively and allude to attitude structure as a causal factor; Katz and Stotland would opt for attitude functions declaring that "where the primary function of an attitude is to gain understanding of one's world, there is little reason to expect overt behavioral changes"¹⁰ (Fitzsimmons and Osburn, 1968:394).

The element of time not only dilutes the S's motivation (interest, concern, and commitment), but also hastens knowledge decay. An obstacle to cognitive functioning, time mitigates retention of certain information ("selective forgetting") as it robs decisional outcomes that were important at an earlier time of their saliency and their urgency (Walster and Berscheid 1968:605-607).

The data summarized in Tables 6 and 9 do not contradict McGuire's appraisal of the deleterious effects of source, message, and receiver factors occurring with the passage of time (1968:254). Nevertheless, Tables 10 and 12 suggest two divergent trends: (1) that there is an information-processing delay in receiving the formal communication, but (2) that any induced attitude change tends to become functionally autonomous of broader aspects of the communication that are retained (McGuire, 1968:256-258). Such recollection is predictable:

¹⁰Festinger, in his Theory of Cognitive Dissonance (1957), strives to do both, i.e., capture the balance of attitude and action that is imperiled by workaday interaction.

Once an individual decides on a course of action--and especially after he commits himself to follow it--all cognitive work seems focused on consolidating and making the best of the decision (Aronson, 1968:611).

Thus, the operation of interest and commitment (volunteering) "sets" (Tables 11, 12, and 14) enters the realm of both theoretical and empirical plausibility, if not probability.

Attitudes and Behavior: A Methodological Purview. A methodological adjunct is submitted, however, by Miller:

The researcher typically concludes the experiment by tacking on a measure of retention and then reports that the lack of differences implies that the effects of the experimental treatment on attitudes were not mediated by differences in retention. While the most obvious criticism of this procedure is to question the sensitivity of the measure of recall, an alternate hypothesis is that motivated forgetting is less likely to appear if attempts to measure it are always positioned last (Miller, 1968: 598).

The ramifications of this contention are cogent: just as a S can be more or less receptive to a message, so may his decay in learning be a methodological imperative, i.e., a function of the design involved.¹¹

Within this framework, the limitations imposed upon the generalizability

¹¹For an exhaustive survey of experimental designs and sources of invalidity therein, see Campbell (1957), Campbell and Stanley (1963), Ross and Smith (1968), and Wiggins (1968).

of the current findings can be weighed. Despite the student sample (of predominantly seminarians, to boot) used, Fitzsimmons and Osburn assert that

this population represents an excellent group upon which to test a theory of rationally based attitudes, where information gain is critical. Support for such an attitude function would then call for further testing of a more heterogeneous population (1968: 392).

In this case, a sampling of students at many seminary schools in the Midwest could be fruitful, though the use of Ss not immersed in a religious preparatory curriculum would yield indices of more widespread application. This revision would also prescribe a deletion of variables and the discarding of hypotheses (Wiggins, 1968:390).

In retrospect, Katz (1960) observes that since our educational system relies on a rational mode of fact communication, the value of intelligence and comprehension in the formation and change of a man's attitudes has become sacrosanct. This value is implicit in Rokeach's attempt to identify a cognitive structure that could account for receptivity to new information, regardless of topic. The present data replicate the failure of Fitzsimmons and Osburn's study to support the intervening role of "open-mindedness," as measured by the Dogmatism Scale, in the learning of information (1968:396). But while dogmatism scores did not predict attitude shifts in their investigation, open-mindedness was significantly correlated with intelligence for 57 of our Ss. Fitzsimmons and Osburn's interpretation of their failure is profoundly linked to our partial success.

Initial position on a variety of variables failed to have the 'controlling' function over subsequent changes that frequently has been ascribed to it. This seems to imply that people will change or fail to change despite their initial position on some of these variables. The authors believe that there may be a difference between learning information that does not particularly contrast with held values, and learning information that is in opposition to beliefs. In this latter case, the construct of open-mindedness may well come into play (1968:397).

A final recommendation for further experimentation in the domain of attitudes and motivated learning springs from a theme pervading small groups research: Is the jump from cognitive concern (i.e., based on knowledge and interest) to an action orientation to action warranted? Because attitudes are hierarchically-ordered predispositions to behave in various ways, it follows

that changes in these predispositions should be followed by corresponding changes in behavior. Furthermore, such changes in attitudes should produce enduring and general changes in behavior if attitudes are themselves enduring and generalized. Research relevant to this topic has unfortunately indicated that such a conclusion is false. Changes in attitude are not necessarily accompanied by changes in behavior. (And) when changes in behavior do occur, they are rarely, if ever, general or enduring (Zimbardo and Ebbesen, 1970:85).

If attitude change does not lead to behavior change (Cook, Burd, and Talbert, 1970:368), then the conception of the transition mentioned above may, indeed, be fallacious.¹² If so, the transmission of information and its reinforcement through personal influence may be approached in a "social learning" context, whereby crucial bits of information held by the Ss are ascertained, and a technique (e.g., persuasive communications) which is most likely to produce a change in such information is implemented. Thus,

by changing the expected consequences for engaging in the crucial behavior, or by changing the associations with a crucial stimulus, we can change any specific behavior... (Zimbardo and Ebbesen, 1970: 93).

¹²Similarly, the prevailing theories of attitude change (see McGuire, 1968:265-272) may need reconceptualization--if external behavior does not conform to the approximation of internal cognitive states. If so, the predictive power of the theories is deflated.

Chapter V

Conclusion

This study has demonstrated that the concept of "personal influence" derived from panel-type field data does not hold in a small groups setting. Specifically, the "quasi-experimental" design (Campbell and Stanley, 1963), though simulating laboratory controls, did not induce differential learning, concern, and commitment to voluntary action as hypothesized. Instead, unwieldy group size, irrelevant informal communication, limited duration of the small group session, and time-delay in the administration of drug knowledge examinations encumber the flow of personal influence in motivating seminary students to learn factual information about a social problem (attitude object) and adopt an "action orientation" for its resolution. The operation of these exogenous variables suggests (1) that while initial interest in the attitude object is not a prime incentive to learning, (2) interest is highly associated with subsequent concern for an activity proposed as a deterrent to the problem. Yet (3) this endorsement of a voluntary program cannot be equated with a willingness to participate in it; rather, (4) individuals who participate in many volunteer activities are more apt to engage in another of social and topical significance. Thus, interest and volunteer behavior "sets" seem to be most predictive of eventual voluntary action.

A moderate, though statistically significant, correlation between Dogmatism Scale scores and SAT scores implies that an individual's aptitude for learning new material is associated with the belief system or cognitive path

of "open-mindedness" or receptivity to that material. The addition of this datum to the above findings indicates that (1) "personal influence" must be reformulated, or at least modified, in a "small groups" context to underscore the reinforcement function of the culturally-certified informational leader, (2) a more parsimonious "pre-post" design encompassing the variables of learning, attitudes, and behavior in a cumulative way be employed, and (3) the theoretical interplay of attitudes and behavior be reconceptualized so that a "threshold of saliency" can be identified. Only then will an attitudinal dimension become empirically reliable and both the transmitters and objects of personal influence more purposively pursued in the field, and in the lab, as well.

Table 1
Demographic Characteristics: Means

Group	N	Age	Year in School
E	54	18.6	1.5
L	33	18.0	1.0
C	21	21.8	3.5

Table 2
Control Variables: Means and Variance Table
(Dogmatism only)

Group	N	SAT	N	Dogmatism
E	28	516.6	37	129.8
L	18	507.9	21	135.7
C	11	511.0	21	133.2

Source of Variation	SS	df	MS	F
Between Groups	502.51	2	251.26	1.058*
Within Groups	18043.91	76	237.42	
Total	18546.42	78		

*not significant

Table 3
Pre-lecture (Test I) Drug Knowledge Scores:
Means and Variance Table

Group	N	Score
E	54	26.59
L	33	26.06
C	21	26.43

Source of Variation	SS	df	MS	F
Between Groups	5.82	2	2.91	0.296*
Within Groups	1032.06	105	9.83	
Total	1037.88	107		

*not significant

Table 4
 Post-lecture (Test II) Drug Knowledge Scores -
 Comparison of Experimental and Control Conditions:
 Means and Variance Table

Group	N	Score
E	54	27.09
L	33	28.36
E+L	87	27.57
C	21	24.38

Source of Variation	SS	df	MS	F
Between Groups	205.64	2	102.82	11.78*
Within Groups	917.13	105	8.73	
Total	1122.77	107		

*p<.01

Table 5
Percentage of Groups Expressing Interest (Test I) and Concern (Test II)
in Voluntary Drug-related Activity

Group	%Interest	%Concern
E	40.7	33.3
L	39.3	36.4
E+L	40.2	34.5
C	52.4	57.1

Table 6
 Decay Over Time (Test III) in Drug Knowledge Scores:
 Means and Variance Table

Group	N	Score		
E	37	26.57		
L	21	28.14		
C	21	27.10		
Source of Variation	SS	df	MS	F
Between Groups	33.28	2	16.64	1.55*
Within Groups	816.46	76	10.74	
Total	849.74	78		

*not significant

Table 7
Percentage of Groups Volunteering for Drug Hot Line*

Group	N	%Volunteering
E	8	14.8
L	4	12.1

*Control Ss not given an opportunity to volunteer

Table 8
 Relearning Scores for Items Repeated on Test II:
 Means and Variance Table

Group	N	Score
E	54	3.42
L	33	3.76
E+L	87	3.55
C	21	2.43

Source of Variation	SS	df	MS	F
Between Groups	23.59	2	11.80	7.92*
Within Groups	156.41	105	1.49	
Total	180.00	107		

*p<.01

Table 9
 Relearning Decay Scores for Items Repeated on Test III:
 Means and Variance Table

Group	N				Score
E	36				5.89
L	21				6.43
C	21				5.19

Source of Variation	SS	df	MS	F
Between Groups	16.21	2	8.10	3.07*
Within Groups	195.94	75	2.64	
Total	211.15	77		

*not significant

Table 10
Effects of Hi and Lo Interest on Subsequent Drug
Knowledge Scores (Tests II & III): Means

Group	Test II	Test III
Hi Interest	21.00	26.47
Lo Interest	26.86	25.67

Table 11
 Interaction Effects of Hi Interest and Hi or Lo
 Voluntary Behavior on Drug Knowledge Scores (Test II):
 Means

Group	N	Score
Hi _{in} / Hi _{vol} Beh	11	28.09
Hi _{in} / Lo _{vol} Beh	33	18.64

Table 12
 Association between Interest and Concern:

For the Subsample taking all Tests

	C	nC	
Hi I	30	5	35
Lo I	3	41	44
	33	36	

$$\chi^2_c = 46.70^*, 1 \text{ df}$$

For the Subsample taking Test I & II only

	C	nC	
Hi I	8	2	10
Lo I	1	18	29
	9	20	

$$\chi^2_c = 10.73^*, 1 \text{ df}$$

For both Subsamples Combined

	C	nC	
Hi I	38	7	45
Lo I	4	59	63
	42	66	

$$\chi^2_c = 64.12^*, 1 \text{ df}$$

*p .001

*p .01

Table 13
 Association Between Concern (Test II)
 and Volunteering for Hot Line*

	Vol	non-Vol	
Con	3	17	20
noCon	8	30	38
	11	47	

$$\chi^2_c = 0.043^{**}, 1 \text{ df}$$

*Only for E and L Ss taking all three exams;
 C Ss not given an opportunity to volunteer

**not significant

Table 14
 Association between General Voluntary Behavior
 and Volunteering for Hot Line*

	Vol	non-Vol	
Hi _{vol} beh	5	9	14
Lo _{vol} beh	6	38	44
	11	47	

$$\chi^2_c = 3.22^{**}, 1 \text{ df}$$

*Only for E and L Ss taking all three exams;
 C Ss not given an opportunity to volunteer

**p < .10

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Approval Sheet

The thesis submitted by Daryl E. Chubin has been read and approved by members of the Department of Sociology.

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

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

May 21, 1971
Date

William Bate
Signature of Advisor