LEGITIMATION, ENDORSEMENT AND COMPLIANCE*

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Technical Report #83
November 1982

*This research was supported by funds from The National Fellowships Fund, The Graduate Program Office at Stanford University, and The National Science Foundation (#SOC-7817434). We wish to thank Dorine Barr-Bryan, David Lineweber and Louise Smith-Donals for their assistance in carrying out this research and for comments on an earlier version, and Nancy Brandon Tuma for her assistance with methods for analyzing survival data.

ABSTRACT

The literature on legitimation and legitimation processes suggests that endorsement, group support of an actor's use of power, should have important effects on compliance of less powerful actors. Evidence from experimental investigations provides no consistent support for that argument. In this article we contend that investigators have generally failed to recognize actions as objects of legitimation and neglect entirely sources of characterizations of legitimacy. As a result, most investigations contain uncontrolled sources of variation which do not permit proper specification of legitimation processes.

We identify three objects of legitimation, persons, positions and actions, and three "types" of legitimacy based on the source of the characterization--propriety, endorsement and authorization--and argue that each is important to a proper analysis of legitimation processes. The laboratory investigation which we report minimizes uncontrolled variation from these additional independent variables and we demonstrate that endorsement of an experimental task structure (a system of positions) delays or prevents approximately 50% of change which occurs in task structures which are unendorsed. Finally, we offer some speculation about how endorsement produces compliance (stability), and some suggestions for further research.

The literature on power and influence processes suggests that persons are more likely to comply with those who have legitimate power than with those whose power is not legitimate. It is generally assumed that endorsement, or group support of an actor's use of power (Dornbusch and Scott; French and Raven), plays a central role in legitimating power relations. Consequently, it is assumed that endorsement is positively associated with compliance by those who are targets of power. But, empirical investigations provide no consistent support for that hypothesis (Lopreato; Michener and Burt, a; Raven and French, a, b). This is an embarrassing result. Because the assumption that endorsement has effects on compliance is derived from a more general theory of legitimacy (Dornbusch and Scott; French and Raven; Michener and Burt, a; Weber), failure to find consistent support for that proposition calls the more general theory of legitimacy into question.

In this article we reexamine the links between endorsement, legitimacy, and compliance. In our view, inadequate conceptualization of legitimacy is to blame for the inconsistent results which arise from experimental studies of endorsement. The decision to characterize a concrete act as "legitimate" or not is the result of a very complicated set of processes. It is an outcome which is determined by the effects of evaluations of a variety of objects and of the sources of those evaluations. While in some sense it is reasonable to think of actors characterizing concrete acts as legitimate or not, a complex analytic framework which takes into account the legitimacy of the position of the actor performing the act, the legitimacy of the person who occupies that position, and the legitimacy of the

act as specified by the rules associated with that position is implicit in their evaluations. In addition, the legitimacy of each of these objects of legitimation can be evaluated from the perspective of three different kinds of sources: One such source of evaluations is a focal actor (whose evaluations, following Dornbusch and Scott we will refer to as the propriety of an object); others who are peers of the focal actor are a second source (again following Dornbusch and Scott, their evaluations are referred to as endorsement); a third source of evaluations is others who are more powerful or influential than the focal actor (referred to as authorization). This complicated set of factors helps to determine an actor's characterizations of legitimacy and past research has not always distinguished them. Raven and French's (a, b) measure of legitimacy (endorsement) is quite different from that of Michener and Burt (b), and assessing the field often reduces to mixing apples with oranges. Another problem is that uncontrolled sources of variation frequently obscure the effects of endorsement. It is widely recognized that Raven and French (a, b) allowed coercive power to conceal the effects of endorsement by peers (Schopler); but it is also true that Michener and Burt (b), who separated power from legitimacy, did not manage to separate legitimacy of positions from legitimacy of persons and acts. We will argue that their failure to do so obscured the effects of endorsement. When uncontrolled sources of variation are identified and controlled, as in the experiment reported in the present article, we find that under certain conditions endorsement has the effects on compliance and stability that theories of legitimacy lead us to expect.

Legitimacy, Endorsement and Compliance: Theory

In its broadest sense, legitimacy refers to the belief that a norm or normative system governs or should govern one's actions (Dornbusch and Scott; Weber). It is assumed that patterns of behavior will be more stable and enduring if they can be characterized as legitimate, that actors who have legitimacy attributed to them will be more able to induce compliance than those who do not share that attribute, no matter what the personal preferences of others are and without exercising power, and that actors are more likely to engage in behaviors which they believe to be legitimate than those which they believe are illegitimate.

While legitimacy is often defined as an individual belief, most theorists (Berger and Luckmann; Dornbusch and Scott; French and Raven; Lipset; Thibaut and Kelley; Weber) have argued that legitimacy is a product of collective action. It is the collective aspect of legitimacy which is captured, in part, by the concept of endorsement or group support. Hence, it has been argued that social systems which have the general support or endorsement of their members are more stable (cf. Parsons), that norms or rules which are endorsed are less likely to be publicly violated (French and Raven; Weber) and that leaders who are endorsed are more likely to secure compliance to their demands (Dornbusch and Scott; Etzioni; French and Raven; Hollander; Homans).

Endorsement Research

Research findings demonstrate that persons distinguish legitimate from nonlegitimate actors and that actors who are perceived as more legitimate

are more highly endorsed. These findings are generally replicated in the laboratory (French et al.; Michener and Burt, c; Michener and Tausig; Mulder et al.; Raven and French, a, b) and in studies conducted in more naturalistic settings (Dornbusch and Scott; Olsen; Peabody; Schein and Ott; Wood).

Despite the relatively clear association of endorsement with perceived legitimacy, differences in endorsement accorded powerful others are not consistently related to compliance or acquiescence to their authority (Bachman et al.; Fox et al.; Lopreato; Michener and Burt, b; Raven and French, a, b).

Raven and French (a) found weak support for the hypothesis that persons are more likely to comply with endorsed supervisors than with those who are not endorsed. However, their related research (French and Snyder; Raven and French, b) and that of others using essentially the same methods (cf. Mulder et al.) provides no clear evidence that such a relation exists. Those investigations generally measured compliance as a change in the rate at which subjects performed a task after a supervisor had ordered them to increase or decrease the speed at which they worked. Supervisors were either elected by a substantial majority of group members (endorsed) or usurped the authority of an elected supervisor (unendorsed). Although subjects tended to speed up or slow down as ordered, there were no significant differences in the amount of compliance by subjects in the unendorsed and endorsed conditions of those experiments.

Supervisors in both experimental conditions had the capacity to fine group members. It has been argued (cf. Schopler) that the effects of

endorsement are confounded with the effects of coercive power in those investigations. The research designs of the studies do not permit assessment of the separate and joint effects of endorsement and coercive power on compliance of group members.

As a response to criticisms of work in the Raven and French tradition, Michener and Burt (b) created a factorial design which permitted them to assess the independent effects of endorsement and coercive power on compliance. But Michener and Burt offered an additional criticism of earlier work. They suggested that there are two types of legitimacy--legitimacy of persons or endorsement and legitimacy of positions or normativity--and that distinctions between the two had not been taken into account in previous research. Normativity, like power, varies independently of endorsement. Therefore, they included both types of legitimacy in their research design.

The Michener and Burt study utilized an investment game in which several low-status actors' investments are controlled by a high-status actor. The operational measure of normativity was the maximum percentage of the low-status actors' resources which the high-status actor could take in taxes. Maximum rates of taxation (either 20% or 50%) were agreed upon by group members before the experimental trials began. Endorsement was measured on a scale constructed from responses to five questionnaire items about the high-status actor's fitness to continue in the position (cf. Michener and Burt, b, c; Michener and Tausig). Endorsement was not varied experimentally but it was found to be highly correlated with the success or failure of the high-status actor at securing returns on the group members' investments, a variable which was subject to experimental control.

The high-status actor always demanded 50% of the subjects' resources on crucial trials. This demand was "normative" when the agreed-upon level was 50%, but was counter-normative when the level was 20%. Compliance was measured as the amount which each subject actually paid. The results indicate that both normativity and coercive power have significant effects on compliance. However, the investigators failed to find a significant effect of endorsement on compliance.

Michener and Burt's experiment marked an important advance in research on legitimacy because it demonstrated a clear effect of legitimacy on compliance when levels of coercive power are controlled. However, we do not find their conclusions about endorsement compelling. Although we agree with them that legitimacy is a multidimensional concept, we believe that their exposition of the underlying dimensions is incomplete. We believe, as they do, that there are important effects of the legitimacy of both persons and positions, but in addition there are effects due to the appropriateness or inappropriateness of acts performed by the occupants of positions. Michener and Burt neglect this object of legitimation in their conceptualization, although it is varied in their experiment.[1] Furthermore, we believe they neglect altogether significant effects of differences in who legitimates positions, persons or acts: the focal actor, the actor's peers, and superordinate others.

Another Look at Legitimacy

It is certainly correct that there is a distinction between legitimacy of persons and of the positions they occupy and that the two may vary separately. But even when actors legitimately occupy positions which are

legitimately established, their actions may be either appropriate or inappropriate. Hence, to Michener and Burt's person-position distinction we add acts. To the extent that they neglect acts as objects of legitimation, Michener and Burt's conception is incomplete.

Another distinction which is found in the literature but is neglected in much of the empirical work on legitimacy concerns the source of characterizations of legitimacy.[2] That is, whose beliefs legitimate a person, position or action (Dornbusch and Scott). There are strongly held assumptions, and some evidence to support them, that an actor's own beliefs about norms, i.e., whether they are internalized or not, have important implications for individual behavior (cf. Homans; Kelman), and many systems of social control appear to rely on internalization of norms as a primary control mechanism (Etzioni). But internalization of norms is not sufficient to generate behavior which is consistent with group norms nor can one immediately infer that those whose behavior is counternormative have not internalized the norms (Bachman et al.; French and Raven; Merton; Stinchcombe; Weber). The beliefs held by other group members appear to have powerful independent effects on an actor's behavior.

Dornbusch and Scott (cf. Scott) suggest that the beliefs of others should be differentiated on the basis of their social location and we will follow their example. They refer to beliefs held by actors superordinate to a focal actor as legitimation by authorization and legitimation by beliefs held by peers of the focal actor is called endorsement. Both of these categories of legitimations are distinguished from an actor's own legitimating beliefs or propriety.[3]

If our conceptualization is accurate, studies which examine the effects of legitimacy are even more complex than previously imagined. Investigators must "control" for effects of propriety, endorsement and authorization of persons, positions and acts. If the focal actor believes that an act is not proper, i.e., it is not appropriate to the position of the actor who performs it, there may be an increased tendency toward noncompliance. But the amount of noncompliance may be reduced if the actor believes that the position and the person occupying it are legitimate. Furthermore, the illegitimacy of the act may undermine the legitimacy of the person performing it and still have no effect on the legitimacy (propriety) of the position, particularly if the position is authorized and endorsed. In this connection Evan and Zelditch found that incompetent behavior undermined the legitimacy of actors but not of the positions they occupied. A more pertinent example is Michener and Burt's (b) study of "normativity." Although they intended to manipulate legitimacy of positions, it is clear that what they actually manipulated was legitimacy of an act (whether the tax exceeded an agreed-upon amount). Legitimacy of position (extrapolating from Evan and Zelditch) should not have varied at all. Furthermore, their method made no attempt to separate propriety from endorsement. As a result, we assume for subjects in the high-normativity groups that the high-status position, its occupant and the act of imposing a 50% tax is initially proper, endorsed and authorized (by the experimenter). However, for subjects in the low-normativity groups, the imposition of a 50% tax lacks both propriety and endorsement. Just how much of the effect of "normativity" on compliance should be attributed to propriety and how much to endorsement of the act can not be determined.[4]

This analysis suggests explanations for the failure of the investigators to find significant effects of propriety of the high-status actor (their "endorsement") on compliance. It is possible that there are effects of propriety of the actor on compliance which are masked by the action of endorsement of the actor (or of some other unmeasured variable). A different kind of research design is required to permit determination of the proportion of the normativity effect which is due to propriety of the act, or of the existence of an effect of endorsement of the actor. The research we report below is an attempt to demonstrate the effects of endorsement of positions on behavior using a research design which minimizes the effects of other, possibly confounding factors. We vary endorsement of an experimental task structure (a system of positions) and examine the effects on the stability, i.e., attempts to change, of the group structure.

Like Michener and Burt (b), we are arguing that there are no consistent effects of endorsement reported in the experimental literature on legitimacy because the effects of endorsement have been obscured by uncontrolled sources of variation. In Raven and French's (a, b) and related experiments (French and Snyder; Mulder et al.), power to impose coercive sanctions, which did not vary across conditions, appears to have masked the effects of endorsement on compliance. On the other hand, we are arguing that Michener and Burt (b) did not vary legitimacy of position, as intended, but instead varied legitimacy of acts; and they measured <u>propriety</u> of actors not endorsement. The effects of endorsement may well be represented by the high correlation between the error terms for propriety and compliance which they report.

We believe that virtually any theory of legitimation would postulate an endorsement effect, and the inconsistency of previous results is a serious embarrassment to such theories. We felt it necessary to discover if there was such an effect. In other words, our task is first and foremost to simply demonstrate that endorsement makes a difference.

The most direct way to accomplish this purpose, in our view, is to vary the endorsement of a system of positions and observe the stability of the initial state of the system. This idea, which gave rise to the present experiment, treats "endorsement" like Raven and French (and Dornbusch and Scott), as the support of the legitimacy of an object by the peers of an experimental subject. However, the object of legitimation differs from both Raven and French (a, b), where persons were the objects, and Michener and Burt (b), who legitimated acts. We focus on a system of positions, rather than persons or acts, for several reasons. Partly, it is simply a matter of underscoring the importance of social structure in a subject too often associated with persons and their acts. But we also believe that Michener and Burt (a, b) were correct to focus on the legitimacy of positions in trying to bring some order to the literature on endorsement; our only quarrel is with their operational measure of it. Evan and Zelditch, who varied legitimacy of persons by varying the appropriateness of their actions, found that the legitimacy of their positions is very stable and has a substantial dampening effect on noncompliance. This suggests that the right attack is to directly manipulate legitimacy of positions.

We will be concerned with situations which satisfy the following criteria: First, we are only interested in situations in which a group of

actors is engaged at some valued, collective task. That is, persons must act together to accomplish a joint task, the outcomes of which are evaluated in terms of their relative desirability. Second, we are interested in situations which are formally organized. There must exist rules which define what are appropriate relations in the task situation.

Methods

Subjects in this investigation were forty female and thirty-eight male undergraduate students who served as paid volunteers. The participants were told that they could earn $4.00 - $6.00 in a study of social communication processes. (All subjects received $5.00 for their participation.) Data collected on an additional ten subjects who were suspicious or failed to understand procedures have not been included in the analysis.

The setting consists of five soundproofed rooms, each equipped with a desk, chair, television monitor, signalling device and a variety of message slips. When subjects arrived at the laboratory, they each drew a colored token. The color of each token, red, yellow, blue, orange or green corresponded to one of the five rooms and was used to identify the subject throughout the study. The orange token was never included as the "orange" subject was always a confederate.

The subjects were instructed using prerecorded video tapes and were told that they were members of a five-person group which would work a series of ten problems. The study was presented as an investigation of the effectiveness of various communication systems for groups whose members could not engage in face-to-face interaction. It was explained that cooperation and accurate transmission of messages were necessary for any members of the

group to correctly solve the problems they would be given. As a consequence, all earnings were to be awarded to the group. Each member of the group was required to submit an answer and the group was to receive $.25 for each correct answer submitted on each of the ten trials. The group earnings were to be divided equally among group members at the end of the study. Thus, each member could expect to earn a maximum of $2.50 over ten trials.

The task required the construction of a series of five-point, multiline graphs (cf. Faucheux and Mackenzie; Mackenzie). At the start of each trial each member of the group had information which corresponded to two lines on the solution graph. In order to successfully complete the task each member had to collect the information held by the other four members, assemble that information and send the solution to the central office. Transmission of information and all communication between group members was restricted to written messages which were picked up and delivered by messengers. A trial was completed when the office had received an answer from each of the five members of the group.

The Communication Structure

Each group of subjects was assigned to a Bavelas "wheel" structure which consisted of a central position which was occupied by a confederate, four peripheral positions and four full channels. Each communication channel connected one of the peripheral positions to the central position. The wheel structure is generally recognized as the most efficient communication structure for the type of task to which the group was assigned.

Group members were instructed that the structure had been randomly chosen from a group of structures in which the investigators were interested. The structure was never diagrammed for the participants but was described instead in terms of positions (designated by color names) and a series of open and closed communication channels. Subjects were reminded that they had been randomly assigned to positions in the structure on the basis of their initial selections of tokens.

The group members were instructed that they could use the wheel structure free of charge but the group was given the right to alter the structure by renting additional communication channels at a cost of $.05 per channel, to be assessed on each trial during which a rented channel was open. No channel could be opened or closed unless a majority of group members approved the action.

Because renting channels was a group activity, the rental costs were to be levied against the group. Each group member had a list of open and closed channels and rental fees, and the exact procedure for opening channels was explained during the initial instruction phase. In addition, all instructions were available to each subject in an instruction booklet which was placed on their work tables.

Creating Pressure to Change: The Unendorsed Structure

After the opening instructions were given, the subjects worked a practice problem and were given a short questionnaire to complete. The host reappeared on the monitor after the questionnaire was answered and indicated that although the team had done well on the practice problem, they had worked too slowly. The host announced the addition of a sizeable bonus

($1.25 per trial) to be awarded to the group member submitting the first correct solution. The bonus was to serve as an incentive for each of the group members to work more quickly and was to be awarded independently of other earnings.

The addition of a bonus created inequality of opportunity and provided "Orange," the confederate occupying the central position, an economic advantage. Orange's central location precluded other members winning the bonus unless the rules of the game were violated or altered. Pretest results indicated that adding the bonus created significant pressure to change the structure of the work situation. After the bonus procedure was introduced, task instructions were summarized and subjects began the ten criterion trials. After each trial the group was given a short rest period, told how much the team had earned on the trial just completed and who had won the bonus.

The unendorsed condition was designed to create pressure for the group members to alter the task structure. Because they had been led to believe that they all had equal abilities and could expect to earn equal amounts, it was expected that there would be pressure to change the communication structure in order to reduce their inequality of opportunity and to reduce their economic disadvantage. Since subjects could only communicate by written message and then only to a confederate, any attempt to change the structure could be determined by monitoring messages. Each subject was, in effect, playing against a confederate and their participation could be terminated at the point at which an attempt to alter the structure was made without contaminating the results for any other subject since all subjects

were isolated. Any attempt to change the basic structure of the situation, e.g., asking to open additional channels, asking to change the method of distributing the bonus, or asking to have the bonus paid directly to one's self, was considered sufficient reason to terminate a subject. After a subject's participation was discontinued or after ten trials were completed, a post-session questionnaire was administered, the subject was interviewed and debriefed, and paid for participating in the study. All deceptions were revealed and explained and subjects were given an opportunity to ask questions about procedures or general questions about the study during the debriefing.

Endorsement Manipulation

Experimental procedures for subjects in the endorsed condition differed from those in the unendorsed condition in only one respect. The short questionnaire administered after the practice trial included the following item: "Based on your experience with the practice problem, would you say you approve or disapprove of this communication system?" Subjects were asked to choose one of five response categories varying from "highly disapprove" to "highly approve." After the questionnaires were collected, each member of the groups in the endorsed treatment received a memo from the office which indicated group members' responses to each questionnaire item. The memo was constructed to indicate that every other member of the group had responded "highly approve." It was assumed that subjects would interpret this memo to mean that other members of the group endorsed the communication structure. After these "findings" were distributed, the host reappeared, introduced the bonus procedure, summarized all task procedures and instructed subjects to begin the criterion trials.

If endorsement influences beliefs in legitimacy as our arguments suggest, a number of features of the task situation should be legitimated. They include: (1) the task as a coordinative, cooperative and collective enterprise, (2) the division of labor, i.e., the structure of the communication network with the confederate in control, (3) the reward system, i.e., the basis for rewards and method of distributing rewards, (4) the status structure which emphasizes the similarity and equality of subjects which is reinforced by random assignment of persons to positions, and (5) the distribution of resources, which with the exception of location in the network are equally distributed, i.e., all members were given the same amount (but different pieces) of information.

Stability

As noted earlier, each subject works at the task for ten trials or until she or he sends a message to another subject proposing to add one or more communication channels to the group structure. Such a message is treated as a change-response (or C-response), which in turn is treated as an indicator of the relative stability of the communication network.

This may appear to be an unnecessary and arbitrary shift in both language and operations from earlier research on endorsement, in which compliance is usually the observed response. In fact, our conception of the experiment would not be harmed by suggesting that a proposal to change the communication network is an act of nonconformity or noncompliance (with the status quo or the known preferences of other group members) and that completion of all ten experimental trials is compliance. However, it is worth a brief digression to place the dependent variable more clearly in the

context of possible responses to illegitimacy. Like legitimacy, at least where it is power relations that are legitimate or illegitimate, the response process is a complex combination of several analytically distinct components. One factor which obviously interests us is compliance. One actor, say Y, may or may not comply with demands made by X. A second variable which ought to be important is who can make influence attempts. In particular, we would want to observe whether it is "acceptable" for only one actor to make influence attempts or whether it is acceptable for both X and Y to compete for authority. The behavior of some third party, Z, is equally important. Z may or may not support either X's influence attempts or Y's noncompliance with them, where "support" refers not only to Z's approval or disapproval, but the capacity of X or Y to mobilize resources possessed by Z. "Stability" of a system of legitimated power is a complex outcome of these simpler components. If we assume that X's exercise of power is legitimated by Y and Z--it is both proper and endorsed from Y's perspective--we should find that Y complies with influence attempts of X, does not attempt to influence X, and that Z supports X's influence attempts and Y's compliance with them. Given these conditions, the authority structure of the $\{X,Y,Z\}$ system should be stable. If instead neither Y nor Z supports X's exercise of power--it lacks propriety and endorsement--then we would expect Y to compete with X in making influence attempts, refuse to comply with X, and to be supported in both these behaviors by Z. As a consequence, the authority structure of the system should be unstable. Of course, a variety of cases is possible but how to think about them has never (to our knowledge) been worked out. (There is, however, a small body of work on

"revolutionary coalitions" that deals with the most unstable case. See Hoffman et al.; Messé et al.; Michener and Lawler; Michener and Lyons; Webster and Smith.)

In the present experiment, a rather direct attempt is made to focus on a kind of "influence attempt" which can be concretely linked to instability, i.e., that has change as its specific content. However, in the interest of comparability with previous experiments on endorsement, it should be underlined that "change" means "noncompliance," and absence of a change-response is directly interpretable as "compliance."

We assumed that endorsement would increase stability of the communication structure because subjects who believed that other members of their group endorsed it would be less likely to suggest changing the structure than subjects who had no such information. In addition, we believed that those subjects in the endorsement condition who suggest changing the structure would have to overcome the inhibiting factor of greater legitimacy and would wait later in the sequence of trials to make such suggestions. Hence, subjects in the endorsed condition are expected to complete more trials than subjects in the unendorsed condition. We present two sets of findings below. First, we provide the results of tests which indicate the relative success or failure of our procedures. Second, we provide the results of tests of hypotheses about the relation of variations in endorsement to subjects' attempts to change the task structure.

RESULTS

Success of Procedures

Our principal hypothesis suggests that endorsement of a system of positions will counter pressure to change the system. We believed that we could create a task structure and a method of distributing rewards which would meet the approval of subjects in the experiment. Our research design introduced a feature--payment of a substantial bonus--which was designed to create pressure to change the task structure. This pressure was expected to be uniform across experimental conditions. We believed that the bonus would be unacceptable to the subjects because it would violate their expectations for equality of reward and their beliefs about fairness. Answers to items on the short questionnaire administered during the study and on the longer, post-session questionnaire provide indicators of the success of the experimental procedures.

Immediately after they completed the practice trial, subjects were asked to indicate on a five-point, Likert scale the extent to which they approved the wheel structure.[5] Subjects generally expressed approval of the wheel structure ($\bar{X}$ = 3.83, where 5 equals "highly approved"). There were no statistically significant differences in the responses of subjects in the two endorsement conditions (t, 75 df., = .66, p = .511). Similarly, subjects expressed approval for awarding equal payments to team members ($\bar{X}$ = 3.74) with no significant differences in responses by endorsement condition (t, 74 df., = .73, p = .466). However, as expected, subjects uniformly disapprove the bonus payment ($\bar{X}$ = 1.91; t, 76 df., = .79, p = .432). These data suggest that we were successful in our attempts to create a setting which would permit us to test our endorsement hypothesis.

Endorsement and Attempts to Change the Task Structure

A person who is confronted with the conditions we establish in this study must make a decision after every trial. Subjects can: (1) continue to perform the task under conditions which they do not approve, or (2) take some action which will promote alteration of the task conditions. We argue that endorsement will inhibit attempts to alter the task structure by reducing the proportion of subjects who make such attempts or by causing them to delay taking action. Hence, when responses of subjects in the two conditions are compared, there should be variation in the number of trials completed and/or in the proportion of persons completing all ten trials.

Although they are convenient as summary statistics, neither the comparison of mean values nor of proportions of subjects completing a specified number of trials provides an appropriate test of our hypothesis. These measures do not take into account differences in the distributions of responses. Several distributions may share similar mean values and may result in similar proportions of subjects completing ten trials. In addition, it is inappropriate to treat intervals between trials of this experiment equivalently. A person working at the seventh trial faces different pressures than a person working at the first or second trial. The subject working at the seventh trial (in either condition) believes that his or her coworkers have not challenged the work structure. After completing a few trials, the subject may begin to attribute endorsement, i.e., support, of the task structure to coworkers. Hence, given the endorsement principle, the longer persons work under the task conditions the more reluctant they should be to attempt to change the task structure.

In order to properly test our hypothesis, we have treated the dependent variable as a survival variable. Each person enters the study and has an active "life" which varies from one to ten trials. That is, each person at each trial is participating or has been withdrawn from participation. Differences in the survival experiences can be determined by comparing the entire survival curves, the graph of the proportion of persons surviving plotted against time. Such an analysis has the advantages of comparing the complete response curves instead of isolated points on those curves, e.g., number surviving ten trials, and of preserving the unique qualities of experiences at various points in time.

We use a variant of the logrank test (Peto and Peto; Peto et al.) to evaluate the significance of differences in survival curves. This test is based on the idea that the probability that a person survives through some time, t, is a function of the degree of risk the person faces in the interval from time 1 through t - 1, multiplied by the risk at t. Groups of persons which have experienced different degrees of risk will have different survival curves. The logrank statistic can be calculated in a manner analogous to chi-square and is distributed approximately as chi-square at k - 1 degrees of freedom.[6]

Figure 1 about here

Figure 1 is the graph of the survival curves for subjects in the unendorsed and endorsed conditions. The curves suggest that the survival experiences of members of the two groups are substantially different and

the test statistic indicates that the observed differences are statistically significant ($X^2 = 5.27$, $p = .02$). Endorsement significantly inhibits subjects' attempts to change the task structure.

Table 1 about here

Table 1 provides a summary of the basic data. The data in column three represent the total number of subjects who initiated change over the ten trial period. The expected values reported in column four are calculated from the marginal frequencies under the assumption that the proportion of subjects initiating change in each of the experimental conditions is equal to the proportion of subjects initiating change in the entire sample. The O/E ratios indicate that for subjects in the endorsed condition there is less change observed than expected and conversely more change than expected in the unendorsed condition. The ratio of O/E ratios (Endorsed/Unendorsed) is somewhat more revealing. It indicates that under the conditions of this investigation, 50.2% of change experienced in the unendorsed condition is prevented or delayed by endorsement.

The purpose of our investigation was to test the hypothesis that endorsement increases the stability of a legitimated system of positions. Demonstrating that endorsement increases stability is not the same as explaining why such an effect occurs and our experiment was not designed with this latter question in mind. Nevertheless, we can make some speculative observations about this question on the basis of responses to items on the post-session questionnaire.

The relation between endorsement and the stability of the experimental task structure could result from any combination of the following factors: (1) increased endorsement may influence an actor's belief that the structure is legitimate, i.e., increase propriety, and increased propriety may mediate the effects of endorsement by reducing the impetus to change; (2) increased endorsement may lead an actor to expect more disapproval of change-initiating or noncompliant actions, and as a consequence the number of change-responses is reduced because actors find it inexpedient to make them; or (3) increased endorsement may simply reduce the expected probability of success for any change strategy which relies on collective action, hence making any attempt to induce change appear futile.

These arguments reflect one of the strong convictions with which we approached this experiment--and one that is in fact upheld in a number of other experiments which treat other aspects of legitimation--that the effects of endorsement do not depend solely on its effects on propriety. We expected that endorsement could and would decrease the probability of a C-response even if a subject did not change his or her own personal sense of the impropriety of the wheel and, although it was less relevant to this experiment, a subject's own sense of its propriety would not protect a system of positions if others did not endorse it. We explored this aspect of the underlying process by asking both male and female subjects their views about the wheel after their first practice trial (and before the bonus was introduced) and, in the case of female subjects, again after the experiment was completed.

Our arguments assume that the effects of endorsement on the timing of C-responses are mediated through several factors, only one of which is measured in our study. Those arguments suggest that a "causal model" in which endorsement has both "indirect" (through propriety of the task structure) and "direct" effects on the timing of C-responses should describe the response patterns we observe. The zero-order correlations among variables for female subjects are presented in Table 2 while Figure 2 is a path model which incorporates those variables.[7]

Table 2 about here

The data in Table 2 indicate that both ENDORSEMENT and PROPRIETY2 are significantly correlated with the timing of C-responses (TRIALS). ENDORSEMENT is also significantly correlated with PROPRIETY2 while none of the correlations involving PROPRIETY1 are significant.

Figure 2 about here

Figure 2 is a path model which incorporates many of the assumptions we make about how endorsement of the task structure affects the timing of C-responses. For example, we assume: (1) That PROPRIETY1 occurs prior to ENDORSEMENT, PROPRIETY2 and the initiation of a C-response, (2) that PROPRIETY2 occurs after ENDORSEMENT but <u>before</u> the subject makes a decision about whether to make a C-response and (3) that the error terms for PROPRIETY 2 and TRIALS are uncorrelated.[8] The path estimates for this model

suggest that PROPRIETY2 has significant effects on TRIALS and, as we argued, that ENDORSEMENT also has significant effects on PROPRIETY2. Finally, while not statistically significant, ENDORSEMENT also has substantial direct effects on the timing of C-responses ($p = .10$).

Our interpretation of these results is that in this experiment, legitimacy of position acts as a support to the structure, one of the primary effects of endorsement being to prevent the erosion of an existing belief in the propriety of the task structure which, under other conditions, is substantially undermined by adding the bonus. That is, subjects who believe the task structure is endorsed are more likely to continue to attribute propriety to it (after the bonus is added) than subjects in the unendorsed treatment. In turn, subjects who attribute propriety to the structure are less likely to attempt to change it or are likely to make such attempts later in the sequence of ten trials. However, this model attributes only about 29% of the total effect of endorsement on the timing of C-responses to indirect sources. As we suggested earlier, we believe that in this setting, endorsement probably affects a subject's perception that an attempt to initiate change will meet with disapproval or other sanctions from his or her peers and/or it will affect the subject's estimate of the likelihood that collective action will be successful. The fact that substantial effects of ENDORSEMENT on TRIALS persist suggests to us that these and other processes may well affect the timing of C-responses.[9]

Discussion

Although endorsement has been assumed to be a central mechanism through

which legitimate power secures compliance, attempts to demonstrate the effects of endorsement on compliance have been embarrassingly unsuccessful. Schopler argued that the failure of investigators (e.g., French and Snyder; Raven and French, a, b) to find significant effects of endorsement on compliance was due to inadequate research designs in which the effects of legitimate power were confounded with the effects of coercive power. Michener and Burt (a, b) made a significant advance by making the important conceptual distinction between legitimacy of persons (endorsement) and of positions (normativity) and by creating a research design which permitted them to partition the effects of each of them as well as the effects of coercive power. Although they found that normativity had significant effects on compliance to leaders, Michener and Burt (b), much like their predecessors, failed to find significant effects of endorsement on compliance. However, in a related study (Michener and Burt, c), they found that endorsement had significant effects on leaders' use of power. With those developments in mind, Michener and Burt appeared to move toward opening two lines of investigation with effects of normativity on compliance as the focus of one line and investigations of effects of endorsement on leaders' behavior comprising a separate avenue of research.

We have offered an argument which suggests that, under specified conditions, actors take into account the legitimacy of persons, positions and actions as well as the source of those legitimations, i.e., whether they are proper, endorsed and/or authorized (cf. Dornbusch and Scott) when selecting behaviors. Our arguments lead us to conclude that Michener and Burt's (b) normativity result is due, at least in part, to endorsement of

actions and that they fail to find effects of propriety of persons (our interpretation of their measure of endorsement) because any effects which occur are confounded with the effects of other factors which are present in their research design.

In the investigation we report here, we varied endorsement of a task structure and sought to demonstrate that task structures which were endorsed would be less susceptible of change than structures which were not endorsed, even when there were substantial incentives to change and the possibility of change was legitimated. Our results demonstrate that endorsement of a task structure prevented or delayed approximately 50% of change which would be expected if the structure were not endorsed. Hence, our work demonstrates that endorsement makes a difference. But it does not explain <u>why</u> it makes a difference. We have made some speculations about how endorsement works and have offered a path model which is consistent with some of our speculations. But more definitive answers await further research.

The absence of any explanation for our findings suggests several questions which might be addressed in future research. First, one must ask whether endorsement has direct effects on propriety as our path model suggests or if the correlation exists because PROPRIETY2 simply measures a subject's after-the-fact justification for behavior and that PROPRIETY2 and ENDORSEMENT are correlated because they are both correlated with the behavioral measure, TRIALS.

Second, if endorsement of task structures does affect actors' beliefs in the propriety of those structures a more general question is raised. How do various sources of legitimation affect one another? Specifically,

how does authorization of some object of legitimation affect the likelihood of its being endorsed or having propriety attributed to it? Do the interrelations among sources of legitimation vary with the nature of the objects which are legitimated, e.g., whether they are persons, positions or actions? In turn, this question suggests another general issue. How are the various objects of legitimation related? For example, do persons who illegitimately occupy legitimately established positions--as in Raven and French's (a, b) work--acquire legitimacy by acting legitimately? How do positions which are not legitimately constituted acquire legitimacy? A fourth general question, would focus on how the various sources and objects of legitimation are interrelated and what the implications for the behavior of individuals and groups are.

There are a number of specific research questions which are generated by contemplation of the more general issues. Our framework suggests that both multiple objects and multiple sources of legitimation are interrelated and any proposal to examine all of these issues would appear to further fragment what is already a fragmented area of inquiry. However, we believe that such a framework has the potential to weave, what were heretofore, independent strands of research into a coherent whole. For example, early work which examined the effects of endorsement of persons on compliance (Raven and French, a, b) proceeded independently of work which attempted to assess the conditions under which a leader's actions were proper or endorsed (e.g., Schein and Ott) or the behavioral responses of others to those actions. Michener and Burt's (b) research design recognized that

both endorsement of persons and of positions have implications for behavior in the same situation. Our work contributes to that development and suggests that no research which treats these issues independently will be successful. To us a more appropriate strategy is one in which the effects of specific factors can be "isolated" through techniques of statistical and/or experimental control. To do otherwise is to condemn the experimental study of legitimation and legitimation processes to repeat the embarrassing failures which have plagued it in the past.

Notes

1. We would argue that much of the literature, and especially that devoted to compliance, concerns legitimacy of acts. Executives encounter "zones of indifference" (Barnard; Schein and Ott) not because they are perceived as illegitimate actors but because of the illegitimacy of their actions. Discussions of power refer to the legitimate or illegitimate exercise of power as well as to the legitimacy or illegitimacy of power structures or power holders (Dornbusch and Scott; Goldhamer and Shils). In reality, Michener and Burt's (b) operational measure of normativity concerns the legitimacy of an action, i.e., imposition of a tax assessment, and the corresponding conditions in French, Morrison and Levinger's earlier work are labelled legitimate and illegitimate fine conditions.

2. Although the sources and objects we distinguish differ from those suggested by Easton, his A Systems Analysis of Political Life provides a thorough-going analysis of legitimacy in terms of objects and sources. Easton identifies three objects of legitimacy, regimes, communities and authorities and three sources, ideology, structure and personal attitudes. These distinctions are also employed in Children in the Political System (Easton and Dennis), and several empirical applications have made use of Easton's conceptualization (cf. Fraser, a, b; Gamson; Muller).

3. Here we reluctantly enter what is at best a terminological morass. Michener and Burt have referred to group support of a role incumbent as endorsement but their operational measure of endorsement is at times an individual belief (Michener and Burt, b) but at other times the beliefs of a collectivity (cf. Michener and Burt, c). We have chosen to reserve

endorsement to refer to beliefs held by peers of a focal actor about any object of legitimation, i.e., persons, positions or actions. When we refer to an actor's personal beliefs we will use the term propriety, which is used by Dornbusch and Scott in a slightly different sense. As do Dornbusch and Scott, we use authorization to refer to beliefs held by those superordinate to a focal actor. Although we recognize the potential for confusion which results from a sudden shift in meaning of a central concept, we do so for two reasons: First, Dornbusch and Scott's terminology is now reasonably well established and is generally consistent with the basic literature in this area. Second, the solution we have chosen seems preferable to the creation of additional, and possibly confusing, neologisms.

4. At this point we should note that our analysis does not diminish the importance of Michener and Burt's (b) result in any way. In our conception, the investigators varied, albeit indirectly, both propriety and endorsement of an act. Their result demonstrates that actors more often comply with orders which possess propriety and endorsement than with orders which lack propriety and endorsement. Michener and Burt note the high correlation of the error terms for compliance and propriety. The presence of some unmeasured variable which is correlated with both propriety and compliance, e.g., endorsement of the actor, could account for that correlation.

5. In order to "control" for any differences in response due to persons being members of mixed-sex groups, males and females were run in separate investigations. Analysis of the data (Walker and Smith-Donals) indicated no significant sex differences in behavior and the data have been pooled.

6. The statistic we report as chi-square is the Lee-Desu statistic which is generated by the survival program in SPSS (Hull and Nie). The statistic differs from the logrank statistic only in terms of the computing algorithm. For a general discussion of analyses of survival data, see Elandt-Johnson and Johnson.

7. ENDORSEMENT is a categorical variable which takes the value 0 if the subject is in the unendorsed treatment and 1 if the subject is in the endorsed treatment. PROPRIETY1 is a measure of propriety taken after the practice trial but before the manipulation of endorsement or addition of the bonus. PROPRIETY2 is a measure of propriety taken on the post-session questionnaire administered after the subject's participation in the study is terminated.

8. While the first assumption appears to be reasonable given our measurement procedures, and the observed correlation of the error terms for PROPRIETY2 and TRIALS does not differ substantially from zero, we cannot say that our measure of PROPRIETY2 is an indicator of a subject's evaluation prior to her or his decision to make a C-response. Our measure is taken after C-responses are made or after the subject has completed a full series of ten trials. Unfortunately, the specification requires us to assume that PROPRIETY2 precedes TRIALS. Even though the absence of any substantial correlation of the error terms suggests that our specification of the time-ordering might be plausible, further research is required to demonstrate that the causal ordering we assume actually exists.

9. This result also suggests an explanation for the negative correlation of PROPRIETY1 and TRIALS (see Table 2). Values of PROPRIETY1 are uniformly high but they are taken before the bonus induces subjects to want to change the task structure. Since C-responses reduce the number of trials a subject completes, high levels of PROPRIETY1 are associated with somewhat lower values for TRIALS. In fact, the more (and earlier) C-responses are made the larger the coefficient should be. That this is the case is demonstrated by comparing the standardized path coefficient in Figure 2 with the zero-order value in Table 2. That part of the effect which is "direct" (represented by the path coefficient) is substantially larger than the zero-order correlation for PROPRIETY1 and TRIALS. We believe that the negative correlation is an artifact of our measurement procedures which does not accurately reflect the true relation of propriety to the timing of C-responses. But knowing that between-group differences in initial levels of propriety are not significant helps us to rule out the argument that observed differences in the timing of C-responses simply result from initial differences in perceptions of the propriety of the task structure.

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TABLE 1. NUMBER OF SUBJECTS MAKING CHANGE RESPONSES BY EXPERIMENTAL CONDITION

EXPERIMENTAL CONDITION	N	NUMBER OF C-RESPONSES OBSERVED (O)	NUMBER OF C-RESPONSES EXPECTED (E)	RELATIVE RATE OF CHANGE (O/E) *
UNENDORSED	38	34	24.35	1.396
ENDORSED	40	22	31.65	.695
ALL	78	56	56.00	1.000

$X^2 = 5.27$, $p = .02$

*The ratio of the relative rates of change (E/U), 49.8%, indicates that the endorsement manipulation delayed or prevented 50.2% of the change taking place in the unendorsed condition.

TABLE 2. ZERO-ORDER CORRELATIONS AMONG VARIABLES*

VARIABLES	TRIALS	ENDORSEMENT	PROPRIETY1	PROPRIETY2
TRIALS	----	.389**	-.125	.385**
ENDORSEMENT		----	.079	.343**
PROPRIETY1			----	.212
PROPRIETY2				----

*Female subjects only, N = 40
**Significant at .05

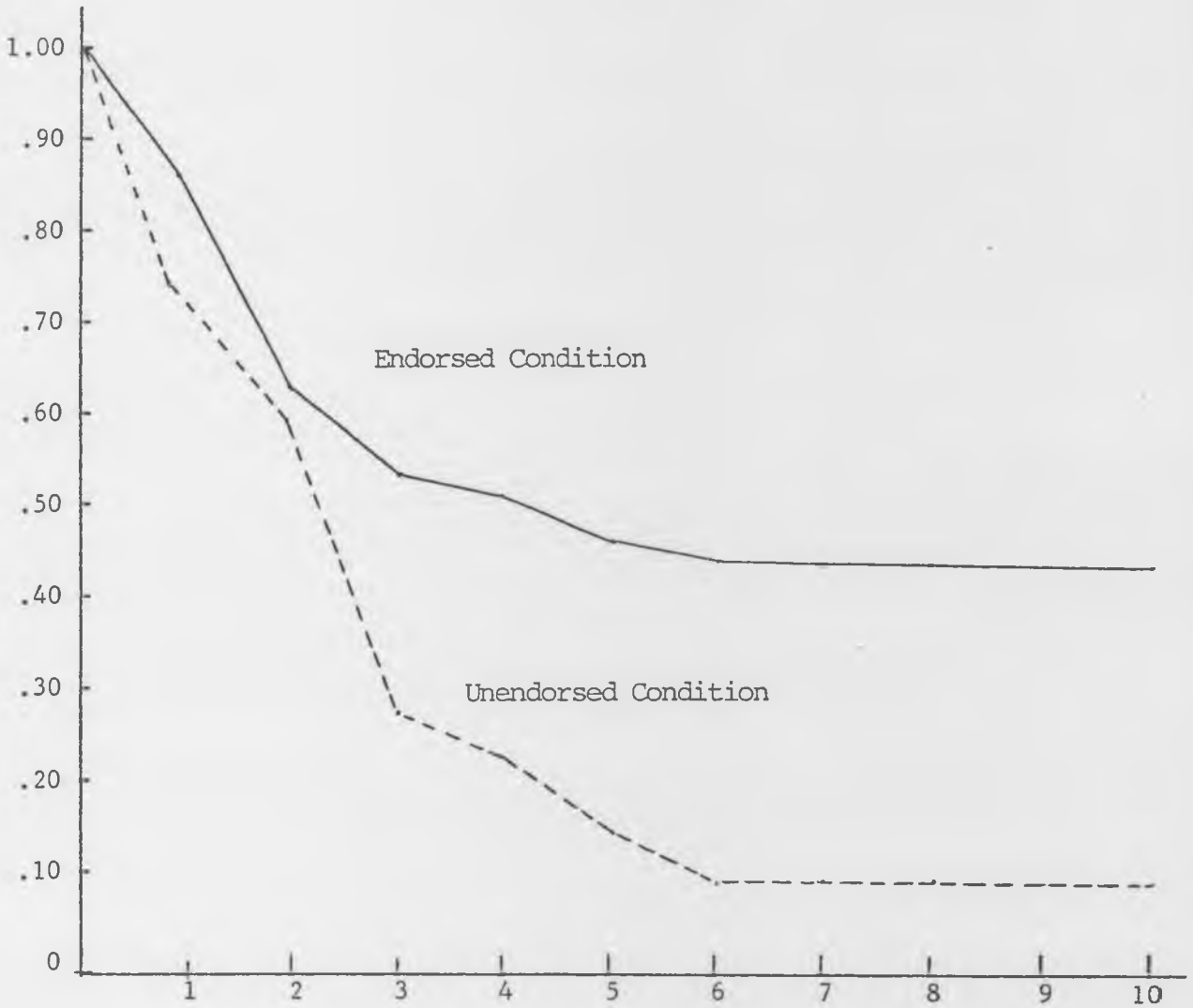

Figure 1. Survival Curves: Proportion of Subjects Surviving at Trial t by Endorsement Condition

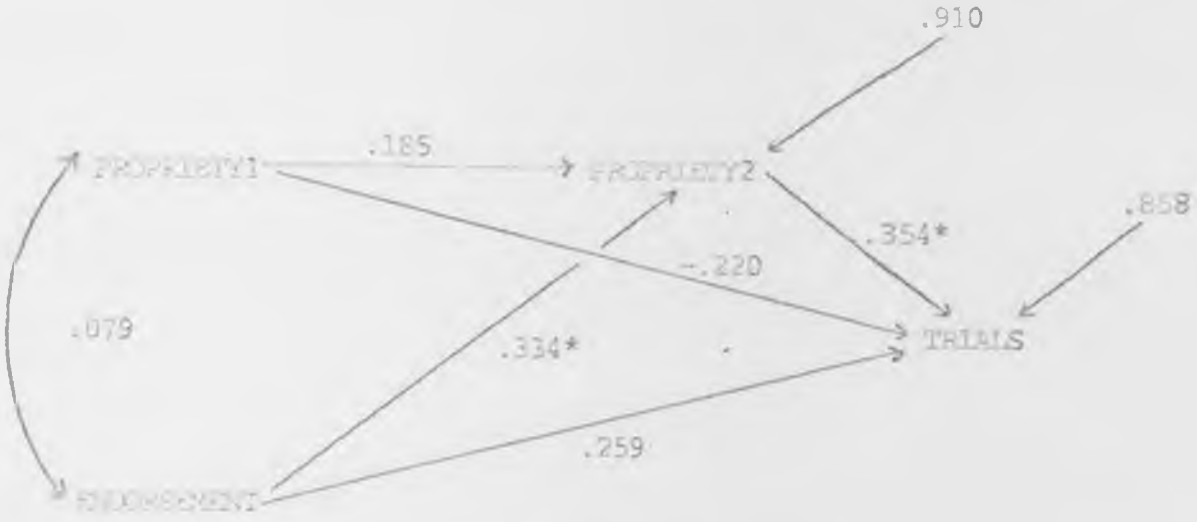

Figure 2. Path Estimates for the Four-variable Model