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SEQUENTIAL-REQUEST PERSUASIVE STRATEGIES
Meta-Analysis of Foot-in-the-Door and Door-in-the-Face

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Meta-analysis of the foot-in-the-door (FITD) and door-in-the-face (DITF) literatures showed both effects to be small (r = .17, .15 respectively), even under optimal conditions. Both require a prosocial topic in order to work. The amount of time between the first and second requests plays a different role in the operation of each of the two strategies. DITF was effective only when the delay between requests was brief. Effectiveness of FITD was unrelated to delay, but did depend on whether or not an incentive was provided with the first request. The positive relationship between effort and FITD predicted by self-perception theory was not found. Self-perception theory and reciprocal concessions theory, the theoretical perspectives usually applied to FITD and DITF respectively, are examined in light of the findings and it is concluded that both are flawed seriously. Directions for future research are suggested.

The focus of this article is on two message strategies, colloquially labeled "foot-in-the-door" (FITD) and "door-in-the-face" (DITF). Both influence strategies represent means of securing behavioral compliance through the use of sequential requests. For FITD, the first request is

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small, such that a large majority of persons would agree to it. It is followed by a larger, second request, which is actually the target behavior.

The DITF is the operational inverse of the FITD. This technique specifies that the initial request must be quite large, such that most people would refuse it. The second request consists of asking for compliance to a comparatively more moderate request. As with FITD, the second appeal is in fact the target behavior.

HISTORICAL BACKGROUND

The study of the FITD method of inducing compliance originated with Freedman and Fraser (1966). In their seminal article on compliance without pressure, they sought to examine the efficacy of the commonly-held assumption that inducing an individual to agree with a minor, even trivial, first request would increase the likelihood of his or her complying with a second larger request. Using a sample of California housewives, the researchers asked half of the experimental subjects to display one of two small signs in the windows of their homes ("Be a safe driver" or "Keep California beautiful"). The remaining half were asked to sign a petition favoring certain legislation. Different experimenters contacted all members of the sample again two weeks later. This time the request was not so innocuous. The housewives were asked if they would be willing to have an imposing billboard planted in their front yard for one week. The results were striking. Agreement with the second request was twice as high as the control group.

By definition, the door-in-the-face technique requires that the initial request be sufficiently large enough that the target individual usually will refuse it. The second request is smaller than the first. Cialdini, Vincent, Lewis, Catalan, Wheeler, and Darby (1975) are credited with the first investigation of this phenomenon. In a series of three studies they clearly demonstrated the ability of DITF to increase the probability of compliance. Their findings showed that subjects who refused a first unambiguously large request were twice as likely to comply with the second more moderate appeal.

Since the appearance of these studies, Freedman and Fraser (1966) and Cialdini et al. (1975), two rapidly growing areas of research have emerged. The FITD literature is larger due to its origination nine years prior to DITF. These two effects have captured the attention of both theoretical and applied social scientists. Despite the obvious similarities in method between the two strategies, they have not been examined often together (for exceptions see Cann, Sherman, & Elkes, 1975; Remgen & Kernan, 1979; Tybout, 1978). This too may be a result of the relative youth of DITF.

As with most bodies of literature there is some variability of findings across studies for both DITF and FITD. Typically, different results are thought to result either from some statistical artifact, such as sampling or measurement error, or from some other variable that moderates the relationship between the independent and dependent variable. The purpose of the present study is to apply recently developed methods to the FITD and DITF literatures that enable the researcher to estimate the effects of statistical artifacts and to assess the impact of moderator variables. The outcome of this analysis is expected to yield two results: first, an estimate of the true effect size of the two sequential-request strategies; second, an increased understanding of other factors that affect the FITD and DITF effects.

A THEORETICAL BASIS FOR FITD

While several theoretical perspectives have been applied to both sequential request strategies, most researchers in either area have clear favorites. For FITD, the most commonly evoked theoretical framework is self-perception theory (Bem, 1967, 1972). Developing a perspective formed by radical behaviorism, Bem posits that individuals draw inferences about their own attitudes and beliefs in the same way they make inferences about the dispositions of others. The kernel proposition of the theory is expressed in the statement that "individuals come to 'know' their own attitudes, emotions, and other internal states partially by inferring them from observations of their own behavior and/or the situation in which this behavior occurs" (Bem, 1972, p. 2).

Belief inferences are dependent on the individual's perception of the cause of his behavior. And, Bem says, perceptions of causality are dependent on the circumstances in which the behavior takes place. If the behavior is enacted in a situation in which the individual is presumably free to do as he chooses, then he will infer that he caused his own behavior. This perception of self-motivated behavior then will bring about a change in the individual's concept of self. Freedman and Fraser (1966) speculated on this process when they suggested the following explanation for their results:

> What may occur is a change in the person's feelings about getting involved or about taking action. Once he has agreed to a request, his attitude may

> change. He may become, in his own eyes, the kind of person who does this sort of thing, who agrees to requests made by strangers, who takes action on things he believes in, who cooperates with good causes. (p. 201)

However, for such belief inferences to occur, the behavior must be seen as the result of internal forces. Frequently, aspects of the situation may suggest themselves as causal forces. If the behavior is performed in the presence of reward or threat, the individual may tend to view the behavior as resulting from one of those external forces. In the language of attribution theory, the individual will tend to *discount* internal motivations as causal and consequently will make no inferences regarding his attitudes or beliefs in relation to his action.

A THEORETICAL BASIS FOR DITF

Sociologist George Simmel (1950) wrote that "all contacts among men rest on the schema of giving and returning the equivalence" (p. 387). This short statement captures the essence of one of the most widely evoked "explanations" for human behavior. Despite the fact that the norm of reciprocity has carried a heavy theoretical load for many years, it has developed very little. Gouldner's (1960) monograph still stands as the most rigorous and complete treatment of the topic to date.

Cialdini et al. (1975) suggest a reciprocal concession corollary to the general norm, on the order of "you should make concessions to those who make concessions to you" (p. 206). In this way they liken the DITF strategy to a bargaining situation. From this analogy they conclude that two conditions are necessary to activate the normative force that increases the likelihood of compliance to the second request. They argue that (1) the original appeal must be rejected and that (2) the target must perceive a concession on the part of the requestor.

META-ANALYSIS

Meta-analysis is a method of quantitatively cumulating the findings of multiple studies (Glass, McGaw, & Smith, 1981; Hunter, Schmidt, & Jackson, 1982). In contrast to primary analysis that utilizes the responses of individuals as data, meta-analysis takes as a datum the value of the statistic that summarizes the primary level data. The distributions of meta-data may themselves be summarized in terms of their central tendency and variability. Moreover, it is possible to code various

features of individual investigations and to test statistically the strength of association between study features and the magnitude of the study statistic using the correlation coefficient.

For example, suppose that the statistic used to summarize the relationship between the use of a sequential request strategy and compliance is the correlation coefficient. Given the existence of several studies, it is possible to form a distribution of correlation coefficients. The mean of this distribution could be estimated by $\bar{r}$ and the variance by σ^2. However, Hunter et al. (1982) note that these estimates are biased as a result of sampling error, measurement error, and restriction or enhancement of range. Only the effects of sampling error are considered in this study. Treatment of the effects of measurement error was not possible because the single-item nature of the dependent variable prohibited estimations of reliability. Correction for restriction in range was not considered necessary because the parameter estimates developed from the studies were computed on unrestricted samples.

Since sampling error is unbiased it will have no systematic impact on $\bar{r}$. Departures from the population value are positive or negative randomly and therefore tend to cancel one another. Thus the mean of the distribution of correlation coefficients should provide an accurate estimate of the population parameter. However, because the variance is estimated by squaring the deviations from the mean, the errors do not cancel themselves out as they do for the mean. Rather sampling error causes the variance across studies to be systematically larger than the variance of the population correlations. Fortunately, it is possible to estimate the extent to which the variance is inflated. This estimate can be subtracted from the observed variance to provide an estimate of the true variance of the population correlations.

Once the variance across studies has been corrected for sampling error it is possible to form the ratio of expected or chance variation to observed variation. This ratio is a percentage estimate of variance attributable to sampling error. If this ratio is large, it is an indication that differences between studies are probably the result of sampling error. In such a case the corrected standard deviation is small.

If the ratio is small, it is an indication that the variation is due to some source other than sampling error. When this occurs it is possible to look for variables that moderate the relationship between the independent and dependent variables. This may be done by forming hypotheses about the existence of certain moderator variables and correlating aspects of the studies with the dependent variable. If those feature

correlations are substantial, then the studies are broken into subgroups and a meta-analysis conducted on each of the subgroups. When the corrected variance within each subgroup is small and the percentage of observed variance attributable to sampling error is high, then the analysis of subgroups is complete.

SELECTION OF STUDIES

An extensive review of the literature was conducted using both manual and computer search methods. The *Social Sciences Citation Index* (SSCI) and *Psychological Abstracts* were searched using the key words "foot-in-the-door" and "door-in-the-face." In addition, a check was made of all articles in the SSCI that cited the Freedman and Fraser (1966) article or the Cialdini et al. (1975) article. Manual searches included *Sociological Abstracts* as well as studies mentioned in review pieces such as Dejong (1979). These efforts yielded 53 articles drawn primarily from psychological and marketing journals.

Articles from this pool were judged against three criteria. First, in order to be included in the meta-analyses the article must have been a published research report of FITD, DITF, or both. This criterion was adopted because of evidence that unpublishd studies are likely to differ in quality and effect size (Rosenthal & Rubin, 1978; Smith & Glass, 1977) and because of the difficulty of systematically sampling from unpublished sources.

Second, some summary of the data suitable for use in the meta-analyses must have been included. Due to inadequate reporting procedures, in some cases it was possible to use only a portion of a study. In a few instances, an entire study had to be eliminated for this reason (e.g., Goldman, Gier, & Smith, 1981).

Third, since by definition both FITD and DITF require that two explicit requests be made, only studies in which both appeals were stated unambiguously were included. This eliminated several studies from the helping literature in which an implicit appeal for assistance was used as either a first or second request (e.g., Miller & Suls, 1977).

CHARACTERISTICS OF STUDIES

A total of 28 FITD and 18 DITF research reports met the criteria for inclusion. When a report included multiple data collections, each study was considered as a single data point. This treatment yielded 37 estimates of the FITD and 24 of the DITF. Tables 1 and 2 present a summary of this information for FITD and DITF, respectively.

TABLE 1
Summary of FITD Studies

Investigation	N^a	Compliance with Second Request: Experimental %(n)[b]	Compliance with Second Request: Control %(n)[b]	r
Baron (1973)	48	50(12)	21(5)	.26
Beaman et al. (1974)	200	46(74)	18(7)	.27
Cann et al. (1975)				
Study 1	63	74(32)	45(13)	.20
Study 2	38	72(13)	45(9)	.19
Cialdini & Ascani (1976)	126	32(20)	32(20)	.00
Cialdini et al. (1978) (Study 2)	20	70(7)	70(7)	.00
Crano & Sivacek (in press)	115	57(53)	45(10)	.10
Dejong (1981) (Study 2)	116	47(62)	37(13)	.08
Dejong & Funder				
Study 1	109	67(49)	56(20)	.07
Study 2	112	59(83)	72(23)	-.08
Fish & Kaplan (1974)	151	19(20)	47(26)	-.23
Foss & Dempsey (1979)				
Study 1	69	54(27)	53(10)	.01
Study 2	148	22(21)	21(11)	.01
Study 3	105	44(30)	31(11)	.11
Freedman & Fraser (1966)				
Study 1	144	38(41)	22(8)	.15
Study 2	112	56(88)	17(4)	.36
Furse et al. (1981)	508	22(47)	21(61)	.01
Hansen & Robinson (1980)	600	45(179)	23(46)	.20
Harris (1972) (Study 1)	54	42(15)	11(2)	.33
Harris et al. (1973) (Study 3)	100	50(15)	25(20)	.22
Harris & Samerotte (1976) (Study 1)	60	15(6)	25(5)	-.11
Pliner et al. (1974)	80	80(36)	46(16)	.24
Reingen (1978)	96	42(27)	59(19)	-.12

(continued)

Table 1 (Continued)

Investigation	N[a]	Compliance with Second Request: Experimental %(n)[b]	Compliance with Second Request: Control %(n)[b]	r
Reingen & Kernan (1977)	49	48(12)	75(18)	-.16
Reingen & Kernan (1979)	222	67(79)	61(63)	.04
Rittle (1981)	29	t = 1.90		.34
Scott (1976)	430	14(46)	09(9)	.07
Scott (1977)	247	38(79)	13(5)	.26
Seligman et al. (1976)	119	51(47)	31(8)	.16
Snyder & Cunningham (1975)	59	52(15)	33(10)	.15
Tybout (1978)	211	36(38)	35(37)	.01
Wagener & Laird (1980)	152	67(51)	36(27)	.23
Zuckerman et al. (1979)	127	48(52)	33(13)	.15

a. N indicates the sample size weight given to each study. Because correlation coefficients are formed by comparison of the control group to experimental group, the two groups should be of equal cell size. Where this was not the case, the N value was adjusted downward so as not to underestimate the amount of sampling error.
b. n indicates number of subjects complying.

Sample sizes for FITD studies ranged from 20 to 600 with a mean sample size of 145. A total of 4927 subjects participated in FITD experiments. For DITF investigations sample sizes ranged from 40 to 400. All in all, 2524 persons acted as subjects in the DITF studies. The average sample size was 105.

A typical FITD experiment sought compliance with some inoffensive initial request such as answering four questions or displaying a small poster, followed by a somewhat larger request requiring 30 minutes or more to complete. In contrast, the initial DITF requests were more varied. They ranged from the comparatively minor "2 hours at the intersection of Third Street and the Bypass keeping a record of the traffic flow in each direction" (Cann et al., 1975) to the outrageous five hours a week for the next year telling people about a health care plan for welfare recipients (Tybout, 1978). Critical DITF requests did not differ substantially from those used in FITD studies.

TABLE 2
Summary of DITF Studies

Investigation	N[a]	Compliance with Second Request: Experimental %(n)[b]	Compliance with Second Request: Control %(n)[b]	r
Cann et al. (1975)				
Study 1	47	60(25)	50(13)	.11
Study 2	40	75(15)	45(9)	.31
Cialdini et al. (1975)				
Study 1	48	50(12)	17(4)	.31
Study 2	58	33(13)	32(6)	.01
Study 3	48	54(13)	33(8)	.17
Cialdini & Ascani (1976) (Study 1)	126	49(31)	32(20)	.14
Crano & Sivacek (in press)	63	23(7)	31(10)	-.08
Even-Chen et al. (1978)				
Study 1	116	42(25)	29(17)	.12
Study 2	67	61(20)	35(33)	.20
Foss & Dempsey (1979)				
Study 2	109	32(18)	21(11)	.11
Study 3	62	31(8)	31(11)	.00
Goldman & Creason (1981)	64	t = 3.43		
Miller (1974)	110	53(47)	32(7)	.22
Miller et al. (1976)	77	64(36)	29(6)	.28
Mowen & Cialdini (1980)				
Study 1	192	35(58)	34(22)	.01
Study 2	216	53(77)	51(37)	.01
Reingen (1978)	64	34(11)	19(6)	.15
Reingen & Kernan (1977)	84	30(16)	58(18)	-.19
Reingen & Kernan (1979)	196	47(43)	61(83)	-.09
Schwarzwald et al. (1979)	400	61(208)	53(32)	.08
Shanab & O'Neill (1979)	80	60(36)	35(7)	.19
Shanab & Isono (1979)	80	30(18)	20(8)	.10
Snyder & Cunningham (1975)	61	23(7)	33(10)	-.08
Tybout (1978)	166	27(16)	34(37)	

a. N indicates the sample size weight given to each study. Because correlation coefficients are formed by comparison of the control group to experimental group, the two groups should be of equal cell size. Where this was not the case, the N value was adjusted downward so as not to underestimate the amount of sampling error.
b. n indicates number of subjects complying.

ANALYSIS

Since the desired outcome of this analysis was to make general statements about sequential request strategies, data within studies were aggregated at the highest possible level. This often meant that different FITD or DITF conditions were reduced to one or that a straight sequential request condition was collapsed with a sequential request plus some other treatment. An example of this occurred in the preparation of the Reingen (1978) investigation that sought to compare FITD, DITF, and Cialdini and Schroeder's (1976) "Even-a-penny-will-help" treatment with various combinations of the three. The FITD plus even-a-penny was collapsed to a single estimate of FITD and the same was done for DITF and DITF plus even-a-penny.

The most common dependent variable in sequential message strategy research is verbal compliance, that is, verbal agreement or disagreement to perform the second request. While some studies have measured the extent to which people actually do what they say they will, the preponderance have relied on a single item measure of verbal compliance. Consequently, the data used in the present report consists primarily of verbal compliance data. Except in those cases in which only behavioral compliance data were reported, verbal compliance data were used exclusively to estimate the FITD and DITF effects.

The first computational step in preparing the data involved converting the various studies to a common statistic. The estimate of effect strength used in the present analysis was the point biserial correlation. Since most investigations report differences in proportions between experimental and control groups, the percentage estimates were converted to the correlation coefficients. A minority of investigations made use of a continuous dependent measure (Goldman & Creason, 1981; Rittle, 1981). For these studies the t statistic was converted to r using a formula provided by Hunter et al. (1982). After compiling a data set for each of the two sequential request strategies, sample-sized weighted estimates of the mean and variance were computed.

RESULTS OF THE INITIAL FITD META-ANALYSIS

The distribution of FITD correlations ranged in value from −.23 to .39. Of the coefficients, 79% were greater than zero. Although this was evidence for the existence of the FITD phenomenon, it suggested that the effect is not a particularly strong one. Computation of the mean correlation ($\bar{r}$) confirmed this suspicion. The weighted mean correlation was .11, and the corrected standard deviation sd_ρ = .14. Formation of the ratio of the variance due to sampling error over the variance in the observed correlation showed that only 28% of the variance may be attributed to sampling error. The variance was subjected to a formal test and found to be greater than the value expected by chance, $\chi^2(33) = 128.45$, $p < .001$. The low percentage of variance due to sampling error as well as the results of the chi square test indicated the existence of moderator variables. Thus the FITD studies were reconsidered with an eye toward variables that might raise or lower the size of the effect.

RESULTS OF THE INITIAL DITF META-ANALYSIS

Of the coefficients in the DITF distribution, 75% were larger than zero. This gave rise to the same inference that was drawn about the FITD effect: a real but small true effect size. Computations showed a sample-size weighted mean correlation of .08, and a standard deviation adjusted for sampling error of .09. The ratio of error variance to observed variance was .56, an indication that approximately 56% of the variance was accounted for by sampling error. A chi square test of the variance produced a value of $\chi^2(23) = 42.70$, $p < .02$, thereby suggesting the existence of moderator variables in the DITF effect. Therefore, that literature was reexamined to search for moderator variables.

Four moderator variables were considered: incentive, effort, delay, and the nature of the appeal. The following section outlines self-perception theory and shows how these moderator variables were derived from the theory.

FACTORS AFFECTING FITD

As it applies to FITD, self-perception theory yields several straightforward predictions. First, if people are given money or other reasons for complying with the first request, then they will make no self-attribution. Consequently, their first act of compliance would bear no relationship to their behavior toward the second request. In terms of experimental design, this means that the treatment group should comply at about the same rate as the control group. The empirical evidence on this point provided by individual studies is mixed. For example, Zuckerman, Lazzaro, and Waldgeir (1979) found the effect predicted by the theory. Dejong and Funder (1977) report just the opposite effect. Subjects in the latter investigation who received an

incentive with the first request exhibited a higher degree of compliance than either the straight FITD group or the control group. These findings, in conjunction with the theoretical prediction, suggest that the role of reward for compliance with the initial request should be investigated.

A second prediction made by self-perception theory concerns effort. The greater the effort expended to comply with the first request, the greater should be the resulting change in self-perception, and in turn the more likely the individual should be to comply with the second request. Freedman and Fraser (1966) first examined the relationship between initial effort and later compliance using a design that included a group that actually carried out the first request, a group that merely agreed to carry out the first request, and a second-request-only control group. Their data show a positive relationship between effort and compliance. The amount of effort required to comply with the first request varied from study to study. Hence it is possible to test the impact of effort on the FITD.

A third variable that may affect the FITD effect is the amount of delay between the first and second requests. Although self-perception theory does not mention time, it is plausible that changes in the perception of self do not take place instantaneously. Thus self-perception theory would predict that the FITD effect might be greater for a delayed second request than for an immediate second request. The one study that has included delay in the design found a very slight difference (nonsignificant) in compliance rates between the contemporaneous requests group and the delay (7-10 days) group (Cann et al., 1975).

A final, potentially important variable is the nature of the appeal. By far the majority of FITD investigations have relied on requests to lend assistance to some socially valued cause. Knowledge of the durability of FITD with nonprosocial appeals would have considerable practical importance.

FACTORS AFFECTING DITF

The same four moderator variables considered for FITD can be considered for DITF. However, only two were included in the analyses, both of which can be derived from reciprocal concessions. Since there was only one DITF study that offered an incentive at the time of the first request (Reingen & Kernan, 1977), there was not sufficient variability in the data to test the impact of this variable. Effort was not examined for a similar reason. There appeared to be very little variability from study to study in the amount of effort it took to refuse a first request.

The reciprocal concessions formulation places a special emphasis on the role of the requestor. For the target to perceive a concession, it is necessary that the individual making the first request and the person putting forth the second appeal be one and the same human. And by implication, the bargaining perspective suggests that the smaller the delay between the first and second requests, the more salient will be the perception of concession. While these are two theoretically distinct propositions, the co-occurrence of delay and different requestors is almost without exception in the DITF literature. For purposes of comparability with the FITD analysis, the variable examined in the DITF analysis will be labeled delay. However, the reader should bear in mind that delay is almost invariably confounded with a change in requestors.

Type of appeal also may be important to the operation of DITF. As Dillard and Burgoon (1982) have argued, one prerequisite for the bargaining explanation being feasible is a pressure to comply. The retreat in request size can be viewed by the target as a concession only if there is some motivation to comply that is independent of request size. Use of a prosocial topic presumably would provide such a motivation. Consequently, type of appeal was included in the list of possible moderator variables.

ANALYSIS OF STUDY FEATURES

Two separate feature analyses were conducted, one for each sequential-request strategy. In each case the dependent measure was the correlation coefficient representing the effect of the strategy.

Four independent variables were used in the FITD analysis: effort, delay, type of appeal, and incentive. The investigations were divided into high (coded 1) and low (coded 0) effort studies. Regardless of the size of the first request, a study was considered high effort if the subjects actually performed the sought-after behavior. Low effort studies were those in which (1) the subjects agreed to perform the behavior but were prevented from doing so by the experimenter or (2) the subjects agreed to perform the behavior but the report presented no evidence on whether or not they actually did.

Since information usually was presented that allowed a quantitative estimate to be made of the time between the two requests, delay was treated as a continuous variable in the feature analyses. When a range of time was given, as was typically the case, the midpoint of that range was

used. The metric for delay was days. For analyses where delay was dichotomized, studies were broken on one day or less versus more than one day.

Type of appeal was coded as prosocial = 1 or self-oriented = 0. An appeal was considered prosocial if the sponsoring institution purported to provide some benefit to the community. Civic groups, environmental groups, and universities were considered prosocial. Marketing firms and other for-profit agencies were considered self-oriented.

An incentive was defined operationally as some monetary inducement to comply. Studies utilizing incentives to induce compliance to the first request were coded 1, studies without incentives were coded 0. Where studies included conditions that offered financial reward for compliance with the second request, these conditions were not included in the analysis.

The DITF analysis used delay and type of appeal as independent variables. The same coding procedures were used for DITF as for FITD.

The analytic strategy was as follows: First, the feature correlations were computed. Next, the studies were split on the basis of the correlations with the moderator variables. An analysis of the mean effect size and variance was conducted for each subgroup. If the variance within a subgroup could be attributed reasonably to sampling error, then the analysis stopped. If not, then the remaining feature correlations were recomputed within that subgroup and another split was made. This cycle continued until the number of subjects/studies became so small that generalizations could not be made or until the between-study variation could be attributed to sampling error.

RESULTS OF FITD SUBGROUP META-ANALYSIS

Correlations between the study features and the size of the FITD effect are presented in Table 3. The feature correlations corrected for sampling error show nontrivial associations with effort, type of appeal, and incentive. The small correlation between delay and FITD suggests that the timing of the two requests is an unimportant factor in securing compliance.

Because the magnitude of the appeal and incentive correlations were so similar, a simultaneous split was made on these two variables. This procedure yielded four groups that differed drastically in size. The self-oriented, appeal-incentive present subgroup consisted of only two

TABLE 3
Percentage and Count of Studies with Moderator Variables and the Simple and Corrected Correlations Between Moderators and FITD Effect Size

Feature	% of Studies with Feature	Number of Studies	Correlation Between Effect Size & Feature	Effect Size Feature Correlation Corrected for Sampling Error
Delay[a]	69[e]	45	-.01	-.00
Effort[b]	52	44	.18	.25
Appeal[c]	84	43	.26	.34
Incentive[d]	13	45	-.22	-.30

NOTE: $Var(r) = .13$.
a. Mean number of days between first and second requests was used to compute the correlation.
b. 1 = high effort, 0 = low effort.
c. 1 = prosocial, 0 = self-oriented.
d. 1 = incentive present, 0 = incentive absent.
e. % of studies with a delay of one or more days.

studies with a total of 300 subjects. Meta-analysis of these studies showed a mean sample-size weighted correlation of .02. The corrected standard deviation was .00. Since there was no between-study variance not attributable to sampling error, no chi square test was conducted.

The prosocial appeal-incentive present group was made up of four studies (N = 328). An initial meta-analysis of this subgroup produced the following results: $r = .13$, $sd_r = .20$; $\chi^2(3) = 17.85$, $p < .001$. The large standard deviation as well as the significant chi square indicated more heterogeneity among the studies than would be expected on the basis of chance. Since the N of studies were so small, feature correlations were not computed; rather, the studies were simply examined for differences. The Scott (1977) study was found to differ from the others in several ways. First, Scott used environmental topics (recycling and ecology), while the others gathered attitude data on behalf of such groups as the Bureau of Civic Safety, the Consumer Interest Guide, the Palo Alto Civic Club, and the Citizens Committee for Traffic Safety. Second, the Scott investigation used face-to-face contact to make the requests; the remaining studies used the telephone. Finally, there was a delay of two

weeks between the two requests in the Scott study, compared to approximately two days in the other studies. Of course, the importance of these differences only can be speculated on. Given the small number of studies, it was impossible to estimate empirically the impact of any of these factors. However, taken together these differences seemed to offer adequate justification for reanalysis of the subgroup after excluding Scott (1977). That meta-analysis yielded $\bar{r} = .05$, $sd_r = .00$, indicating a minute effect with no variation.

Next, a meta-analysis was conducted on the self-oriented appeal-incentive absent subgroup. This category was composed of four studies with a total N of subjects of 533. The mean correlation was essentially zero ($\bar{r} = .02$) with a similar standard deviation ($sd_r = .00$).

The final group, prosocial appeal-incentive absent, was by far the largest, consisting of 33 studies and 3225 subjects. Meta-analysis indicated the existence of a small but nontrivial effect ($\bar{r} = .16$) with some variability ($sd_r = .08$). The fact that the effect was twice as large as the standard deviation made it reasonable to conclude that there does exist a FITD effect under these conditions.

However, formation of the ratio of error to observed variance yielded a figure of .61, an indication that some 39% of the variation in effect size was due to something other than sampling error. Correlation of the remaining features with FITD showed no meaningful association (r with delay = .002, r with effort = .06). Consequently, the investigations forming this subgroup were examined for oddities. Two studies, both reported in Fish and Kaplan (1974), suggested themselves. Both studies made use what the authors referred to as passive FITD manipulations. Rather than have subjects actually perform some behavior, participants in these two experiments sat through a lecture on poverty as part of an introductory psychology class. It seems that this induction differs substantially from the usual initial request. Most first requests seek some overt behavior rather than the cognitive processing task of absorbing a lecture. More importantly, decisions to accept or reject first requests are presumably made on their own merits. The decision to sit through a lecture may depend not so much on substantive interest as a desire to pass the course. In addition, for most students the decision is one of whether or not to attend class at all, not one of whether to leave or stay depending on the topic. The potential importance of these differences is most apparent in the size and direction of the FITD correlations. The two coefficients (-.21, .35) are over four and five standard deviations respectively away from the subgroup mean. The likelihood of these values resulting from sampling error alone is minuscule.

For all these reasons, meta-analysis was conducted again excluding those two studies. The results this time showed that the mean coefficient rose slightly ($\bar{r} = .17$) and the variance attributable to sampling error rose to 100% ($sd_r = .00$).

The final outcome of the meta-analysis of the subgroups appears in Table 4. These results show an interaction between appeal and incentive such that there is an effect for FITD only when the appeal is prosocial and incentives are not used. One caveat lies with the prosocial-incentive present cell. As noted in the earlier analysis, sufficient heterogeneity existed among the small number of studies in this category that was necessary to delete an outlier. This suggests there may be some previously unconsidered moderator variables active in that cell. Additional research might address that question by utilizing a design with a number of different prosocial appeals.

One remaining question was the influence of effort. The total sample feature analysis showed a corrected correlation of .25 between effort and the effectiveness of FITD that is indication of a nontrivial relationship between the two variables. However, the subgroup analyses indicated that all the variance in effect sizes could be attributed to three factors: appeal, incentive, and sampling error. If the latter analysis is correct, then the effort-FITD correlation should go to zero if the effects of appeal and incentive are held constant. A simple correlation coefficient, computed between effort and FITD for all studies in the altruistic appeal-incentive absent cell, confirmed this expectation ($\bar{r} = .02$). Since 53% of the studies in that group were classified as high effort, the coefficient was not depressed by a disproportionate number of either high or low effort studies. Thus the impact of effort can be seen to be essentially nil when moderators and artifacts are controlled.

RESULTS OF DITF SUBGROUP META-ANALYSIS

Only two variables were examined as potential moderators of the DITF effect: delay and type of appeal. The feature correlations, presented in Table 5, show a substantial effect for delay and a smaller effect for type of appeal. Consequently, the studies were split on delay first. The delay group was made up of six studies in which a total of 413 subjects participated. The length of delay ranged from two days to eight and one half days. Meta-analysis produced a mean correlation of -.02,

TABLE 4
Summary of the FITD Subgroup Analyses Including Number of Subjects (N), Mean Effect Size (r), Estimate of the True Standard Deviation (sd_ρ), and the Percentage of Variance Due to Sampling Error

Group	N	$\bar{r}$	sd_ρ	Percentage of Variance Due to Sampling Error
Total sample	4927	.11	.14	28
Self-oriented appeal-incentive absent	533	.02	.00	100
Self-oriented appeal-incentive present	300	.02	.00	100
Prosocial appeal-incentive absent	2972	.17	.00	100
Prosocial appeal-incentive present	188	.05	.00	100

and a corrected standard deviation of .00. All of these figures suggest that DITF is completely ineffective when a delay of more than a day is inserted between the two requests.

A weak positive effect was indicated by the mean correlation ($\bar{r}$ = .09) in the 19 no delay studies (N = 2213). However, the adjusted standard deviation (.07) was almost as large as the mean correlation, suggesting that additional analysis would be necessary. This was borne out by a ratio of error variance to observed variance of 62%. The chi square produced a value that attained traditional levels of significance, χ^2 (18) = 30.77, $p < .05$.

The correlation between types of appeal and DITF was recomputed on the remaining studies. This time the correlation showed a more potent effect for appeal, r = .43, or 1.13[1] when corrected for sampling error. On the basis of this finding, the studies were split into two groups.

The five no delay, self-oriented studies (N = 776) yielded a mean coefficient near zero ($\bar{r}$ = .003). The adjusted standard deviation remained comparatively large (sd_ρ = .09) due to the existence of one outlier. The chi square showed significant variation, χ^2 (4) = 12.43, $p < .02$. The Goldman and Creason (1981) investigation showed a coefficient of .40, the largest of any study located. In terms of the subgroup, the value is almost five standard deviations away from the mean. While this

TABLE 5
Percentage and Count of Studies with Moderator Variables and the Simple and Corrected Correlations Between Moderators and DITF Effect Size

Feature	% of Studies with Feature	Number of Studies	Correlation Between Effect Size & Feature	Effect Size Feature Correlation Corrected for Sampling Error
Delay[a]	20[c]	25	-.53	-1.21
Appeal[b]	75	25	.15	.35

NOTE: $\overline{Rel}$ (r) = .40.
a. Mean number of days between first and second requests was used to compute the correlation.
b. 1 = prosocial, 0 = self-oriented.
c. % of studies with a delay of one or more days.

indicates a difference that is clearly not due to chance, the source of the difference only can be speculated on. Although it is intuitively unsatisfying to delete a study strictly on the basis of its being an outlier, it was the only course of action available here due to the small number of data points. Were additional outliers present in the data set, it would have been feasible to analyze them for commonalities. One unique aspect of the Goldman and Creason (1981) investigation is their use of a continuous dependent measure. This feature may be sufficient to explain the unusually large value.

An additional subgroup analysis was conducted excluding the data drawn from Goldman and Creason (1981). While the mean correlation changed very little (r = -.03) the adjusted standard deviation shrank dramatically to .00.

Analysis of the no delay-prosocial appeal subgroup (N = 1338) showed a small positive DITF (r = .15). After correcting for sampling error in these 14 remaining studies, the standard deviation of rho went to zero. A summary of this and the previous subgroup analyses are presented in Table 6.

The interpretation of these findings is relatively straightforward. Two conditions are necessary for DITF to operate—no delay and a prosocial appeal. If either is not favorable, the effect is reduced to zero. However,

TABLE 6
Summary of the DIFT Subgroup Analyses Including Number of Subjects (N), Mean Effect Size (r), Estimate of the True Standard Deviation (sd_ρ), and the Percentage of Variance Due to Sampling Error

Group	N	r	sd_ρ	Percentage of Variance Due to Sampling Error
Total sample	2591	.08	.09	57
Delay	413	-.02	.00	100
No delay	2178	.09	.07	62
No delay—self-oriented	776	-.03	.00	100
No delay—prosocial	1338	.15	.00	100

even if both conditions are present, the average effect size is small (r = .15).

COMPARATIVE ANALYSES OF THE TWO SEQUENTIAL REQUEST STRATEGIES

Additional analyses of the cells in which the DITF and FITD were effective were performed in order to explore the pragmatic ramifications of the request strategies. Computation of the sample-size weighted mean discrepancy in proportions between experimental and control groups for the FITD produced a figure of .19. This value is an indication that, on the average, the use of one small request prior to the target request can be expected to increase compliance by about one fifth. The corresponding figure for DITF is roughly equivalent at .17.

A bivariate regression analysis was conducted for each strategy using the percentage of compliance in the control group to predict the percentage of compliance in the experimental group. The purpose of this analysis was to estimate the impact of the sequential-request techniques at various levels of compliance with the target. In more practical terms these analyses address the question "if x percentage of persons comply with the single request, how much gain can be expected by applying the FITD (DITF)?" For the FITD strategy the data yielded a correlation of r = .64, $p < .01$, with an unstandardized slope of b = .62 and an intercept of a = .30. For DITF the corresponding values are r = .74, $p < .01$, b = 1.15, and a = .16.

The effect of error of measurement in the predictor(s) on a regression analysis is known: Error depresses the value of the slope and consequently inflates the value of the intercept. When the extent of the measurement error is known, these values may be corrected using formulas provided in Levine and Hunter (in press). In a meta-analysis, the reliability coefficient is determined by the sampling error in each of the individual data points. In this particular study the reliability of the predictor is one minus the unweighted average error of the proportion of subjects complying in the control group. The computations showed a reliability of .87 for FITD and .69 for DITF. Using these values to correct the slopes and intercepts produced $b' = .71$, $a' = 26.91$ for FITD and $b' = 1.67$, $a' = -1.01$ for DITF.

Despite the corrections, one slope clearly does not reflect reality. The DITF regression line suggests that if control group compliance is approximately 64% or greater, then the researcher can expect experimental group compliance to exceed 100%. Obviously, this cannot be. Rather the regression curve must pass through the point x = 100%, y = 100%. Thus the regression is nonlinear. Because of a paucity of data at the upper end of the distribution, it is impossible to describe empirically the form of the line. Since the regression is linear over the available range of values, it is apparent that the curvilinearity must exist in the region for which there is no data. The results of the regression analyses are presented in Figure 1. The curvilinearity of the DITF appears as a dotted line. Comparison of the two lines reveals that FITD is the more potent of the techniques when control group compliance is low (roughly below 26%). However, at higher levels of compliance with a single request, DITF can be expected to have a relatively greater impact.

DISCUSSION

SUMMARY

One finding common to both request strategies is the importance of the appeal. The data show that neither technique is effective at increasing compliance when coupled with a self-oriented request.

Incentive was shown to neutralize the effects of FITD. In those studies that provided some monetary reward for compliance with the small, initial request, the mean point biserial correlation differed only

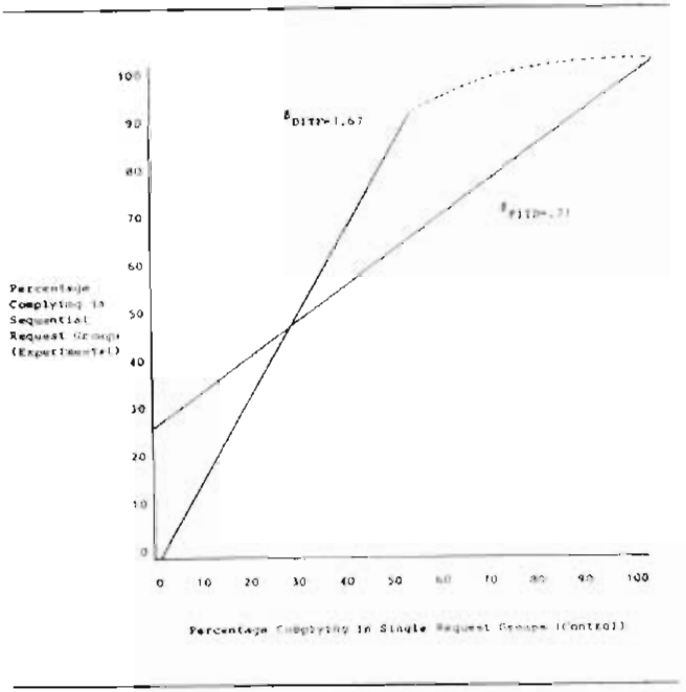

Figure 1: Regression analysis showing compliance in experimental group as a function of compliance in control group for DITF (N = 14) and FITD (N = 29).

minutely from zero. It was not possible to test the influence of incentive on DITF.

The findings for effort produced a surprise for self-perception theory. The theory makes a clear prediction of a positive relationship between effort and effectiveness of FITD. While it initially appeared that this prediction was supported, the relationship was shown to be null when the effects of incentive and altruism were removed. One can conclude from this that FITD researchers should begin to look elsewhere for a theory of sequential request behavior.

The role of time was examined for both strategies and shown to be different for each. FITD appears to depend not at all on the amount of time between the first and second request. DITF provided a sharp contrast. It was effective only in studies in which the second request followed the first very closely. One caveat associated with this finding is the potential impact of different requestors. Since only one study used the same requestor to make a delayed request, these two factors are confounded almost perfectly. Additional studies that cross delay (immediate vs. later) with requestor (same vs. different) are needed to resolve this issue.

Taken together, these findings suggest that neither self-perception nor reciprocal concessions are adequate to the task of explaining sequential-request phenomena. The bargaining explanation of DITF is vague about the role of appeal and completely silent on the effect of delay. Self-perception similarly is mute concerning the nature of the request. Moreover, the null finding for effort poses a problem for the theory. The extent to which this difficulty is viewed as serious must be tempered by knowledge of the rather rough operationalization of effort in this study.

IMPLICATIONS FOR SELF-PERCEPTION THEORY AND RECIPROCAL CONCESSIONS THEORY

Self-perception theory and reciprocal concessions theory each have been applied in only one area of research, that is, self-perception theory has been considered only for FITD research, while reciprocal concessions theory has been considered only in DITF research. Yet both theories apply to both areas of research. As will be shown, each theory makes predictions about the other area that are strikingly inconsistent.

Consider self-perception theory in the context of DITF research. One (the subject) rejects a request. Presumably this alters one's self-perception correspondingly. Therefore, one should be *less* likely to respond to the second request. In fact DITF research has shown one to be *more* likely to comply.

The previous derivation assumes that there was no discounting of the rejected appeal. According to self-perception theory, if one's refusal was ascribed to external forces rather than one's disposition, then no change in self-perception would occur. For instance, if one considered oneself unable to meet the request because of a lack of time or resources, one would not alter one's perception of oneself. If the rejection were

discounted, then there should be no change in the probability of complying with the second request. However, this prediction is at odds with the DITF finding that compliance increases for the second request.

Consider reciprocal concessions in the context of FITD research. Reciprocal concessions would see acceptance of a small request as a concession. Thus if the target has performed a small request, he or she should be *less* likely to acquiesce to a larger second request. The prediction runs precisely counter to the fact that FITD increases compliance.

The results of this study show that both theories come up short. What is needed is a theoretical framework that (1) takes into account the empirical generalizations brought out by this review and (2) considers both strategies simultaneously. One boundary condition is indicated by the finding that the strategies work only as prosocial appeals. This suggests that it might be useful to tie in the vast literature on altruism and helping behavior.

PRACTICAL IMPLICATIONS

A number of marketing researchers have expressed interest in sequential request strategies as applied persuasive devices. Investigators have sought to induce changes in consumer behavior in a variety of commercial and prosocial areas. Findings from the present study suggest that use of FITD and DITF is best left to those persons who wish to wage prosocial persuasion campaigns. In addition, either strategy may be an effective means of increasing survey response rate depending on the sponsoring organization. Given these restrictions, sequential-request techniques can be expected to increase compliance by approximately 20% on the average.

Choice of the most effective technique is influenced by the amount of information available to the decision maker. Increased information can be expected to increase the probability of correct choice of technique and to enhance its subsequent application. Of course, information can be expensive. The following recommendations are ordered in terms of ascending cost and, presumably, ascending effectiveness.

If only the limitations of the campaign are known (e.g., number of contacts possible), then attention should be focused on the characteristics of each technique. DITF is operative only when the delay between first and second requests is very brief. Its effects will be most pronounced when the DITF is used in a single contact.

FITD produced a more lasting effect and therefore is to be preferred when a delay between requests is necessary. Whether or not this effect continues past the second request is not known. It is possible that the usual second request may act as a FITD for an even larger third request.

After establishing whether or not a delay is required between requests, data about the level of compliance with the target behavior via a single appeal is necessary. In instances where baseline compliance does not exceed approximately 25%, FITD should produce the greatest return for the effort. FITD may be used with or without delay. If single request compliance is greater than approximately 25%, DITF will produce the more potent effect. In the absence of data or an educated guess about baseline compliance, the rule of thumb would be to rely on DITF. It produces a greater percentage increase over a wider range of baseline values and therefore can be expected to produce the best results on the average.

Finally, data on a range of first requests should be sought. While the present study did not assess the association between strategy effectiveness and size of discrepancy between first and second requests, previous work suggests that this relationship can be optimized for either strategy (Dillard & Burgoon, 1982). Schwarzwald, Raz, and Zvibel (1979) present evidence that indicates that the discrepancy-effectiveness relationship is nonlinear for DITF. It is possible that the same is true for FITD. Consistent with the self-concept explanation advanced earlier is the notion that initial requests can be too large. Requests that exceed the bounds of believability are likely to be perceived as threats to the self-image (e.g., What kind of a fool does this person take me for?). When this occurs, decreased rather than increased compliance is likely to result (Marx, 1980; Schwarzwald et al., 1979).

NOTE

1. A corrected correlation is not a Pearson Product Moment Correlation. If the population corrected correlation is large, then sampling error can cause the observed value to be greater than one.

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