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Change Through Paradox: Using Self-Verification to Alter Beliefs

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Past research has shown that conventional strategies of persuasion tend to be ineffective against people who are highly certain of their beliefs. To change the beliefs of such individuals, we devised a paradoxical strategy that consisted of posing *superattitudinal* leading questions (questions that encouraged respondents to make statements that were consistent with, but more extreme than, their own viewpoints). We expected that individuals who were high in belief certainty would resist such questions and, therefore, change their beliefs in the opposite direction. To test this reasoning, we used either a conventional or a paradoxical strategy to change people's beliefs about women's roles. As suggested by earlier research, the conventional strategy was effective in changing the beliefs of targets who were low in belief certainty only. In contrast, the paradoxical strategy was effective in changing the beliefs of targets who were high in belief certainty only. A follow-up investigation replicated this effect and indicated that paradoxical injunctions change people's positions on belief dimensions rather than their perception of the dimension itself. The implications of these findings for an understanding of the interpersonal mechanisms that generate stability and change in people's beliefs are discussed.

Some people are easier to persuade than others. On the one hand, there are those who are relatively uncertain of their beliefs. Such individuals bring smiles to the lips of change agents, for they are known to change their beliefs quite readily. On the other hand, there are those who are relatively certain of their beliefs. Such individuals inspire despair rather than delight among change agents, for they are known to resist vehemently any efforts to change their beliefs.

Individual differences in belief certainty may temper the effectiveness of even the best persuasion techniques. Consider, for example, a strategy of persuasion known as the *leading questions* technique. This technique is based on implicit rules of communication that enjoin people to answer leading questions in ways that confirm the premises in the questions (e.g., Grice, 1975). For instance, when asked the leading question, "Why should men and women be equally responsible for child rearing?", respondents are likely to answer in ways that are consistent with egalitarian assumptions about child rearing—even if they do not fully agree with these assumptions (e.g., Dillehay & Jernigan, 1970; Salancik, 1976; Snyder & Swann, 1978; Swann, Giuliano, & Wegner, 1982). Moreover, people seem to take the answers they generate to such leading questions seriously. After providing answers that confirm leading questions, people modify their beliefs to bring them into harmony with their answers (e.g., Fazio, Effrein, & Falender, 1981).

As effective as it may be, the leading questions technique may be no match for people who are highly certain of their beliefs. Specifically, the self-verification formulation (e.g., Swann, 1983, 1987) assumes that the more certain people are of their beliefs, the more they will rely on these beliefs as a means of organizing experience, predicting future events, and guiding behavior (e.g., Epstein, 1973; Lecky, 1945; Mead, 1934; Secord & Backman, 1965). Beliefs can serve these functions, however, only if they are relatively stable. For this reason, people who are highly certain of their beliefs will strive to stabilize their beliefs by avoiding behaviors that might promote belief change. For example, they will be particularly reluctant to make statements that might misrepresent their true beliefs, for such behaviors might tempt them to modify their beliefs.

Swann and Ely (1984) tested this reasoning by asking people who differed in the extent to which they were certain of their beliefs a series of leading questions. As expected, low-certains (targets who were relatively uncertain of their level of extraversion) readily provided evidence that confirmed the premises in the leading questions. In contrast, high-certains (targets who were relatively certain of their level of extraversion) refuted the premises in the questions and clung to their initial beliefs.

If high-certains engage in self-verification whenever someone challenges their beliefs, does this mean that such individuals are immune to persuasion strategies such as the leading questions technique? When leading questions are used in the conventional fashion, Swann and Ely's (1984) research suggests that this is clearly the case. It may be possible, however, to construct a leading questions strategy that causes the resistance activities of high-certains to backfire, thus *promoting* belief change.

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To this end we developed a leading questions strategy that was designed to work by placing people in a paradoxical situation (cf. Watzlawick, Weakland, & Fisch, 1974). Consider that no matter how extreme someone happens to be on a dimension, he or she is usually somewhat shy of the end point of that dimension. For example, most people with conservative sex role attitudes will feel that they have been misconstrued if someone asks them a question implying that they have extremely conservative beliefs, such as "Why do you think its a good thing to keep women barefoot and pregnant?" They may react by portraying themselves as somewhat liberal, thereby distancing themselves from the extremely conservative position implied by the question. The paradox is that such identity protective activities may have an unintended consequence: After espousing liberal beliefs, targets may reflect on their behavior and infer that they are actually more liberal than they once thought (e.g., Bem, 1972).

Even so, like the conventional leading questions strategy, the paradoxical strategy probably only works on some targets. Note that the paradoxical strategy is effective only if targets resist the questions they are asked. Because high-certains tend to resist leading questions but low-certains do not (e.g., Swann & Ely, 1984), only high-certains might be expected to display the paradoxical effect.

Our central hypothesis, then, is that different leading questions strategies should be used with different people. Just as the conventional strategy of posing belief-inconsistent leading questions should be most effective in changing the beliefs of low-certains, the paradoxical strategy of posing "superattitudinal" leading questions should be most effective in changing the beliefs of high-certains.

Study 1

This study was designed to contrast the effectiveness of a conventional, as opposed to a paradoxical, leading questions strategy in changing the beliefs of people who were either relatively uncertain or relatively certain of their beliefs. Participants who possessed conservative beliefs regarding women's roles answered a series of leading questions. In the conventional-strategy condition, the questions encouraged participants to make relatively liberal statements. In the paradoxical-strategy condition, the questions encouraged participants to make extremely conservative statements. In the baseline comparison group, the questions were unbiased.

We recorded participants' answers to the questions as they responded. When they had answered all the questions, participants completed a post-measure of their beliefs about women's roles. The difference between their scores on a pretest measure of attitudes toward women and the post-measure provided an index of belief change. After all the sessions were completed, independent judges rated the extent to which participants resisted the questions.

We expected (a) that high-certains would resist the leading questions more than low-certains; (b) that the high levels of resistance displayed by high-certains would lead to minimal belief change in the conventional-strategy condition (because resistance would tend to nullify the inconsistent questions) but to considerable belief change in the paradoxical-strategy condition (because resistance would entail high-certains making statements that were inconsistent with their initial beliefs); (c) that the low levels of resistance displayed by low-certains would lead to belief change in the conventional strategy condition (because low-certains' lack of resistance would mean agreeing with the inconsistent questions) but minimal change in the paradoxical strategy condition (because their minimal resistance to conservative questions could not make them much more conservative than they already were); and (d) that little resistance or belief change would be evidenced by individuals in the baseline control condition.

Method

Participants

We recruited 72 female undergraduates enrolled at the University of Texas at Austin by offering them credit in their introductory psychology course. Participants were drawn from a sample of students who were pretested at the beginning of the semester. We selected individuals who scored above the median on a 10-item subset (coefficient $\alpha = .77$) of Spence, Helmreich, and Sawin's (1980) Male–Female Relations Questionnaire (MFRQ), thereby insuring that all of our participants possessed relatively conservative beliefs about women's roles. For example, conservatives tended to endorse statements such as "If my husband and I both worked, I would realize that his job came first," "I would expect my husband to be head of the house simply because he's a man," and "When I'm playing a sport with a man, I feel better about him if he wins."

As in earlier research by Swann and Ely (1984), only those individuals ($n = 47$) who scored in the upper and lower third of the sample on the measure of belief certainty were included in the primary analyses.[1] Also, three participants were lost due to accidental erasure of an audiotape.

Procedure

Participants reported individually to the experiment. One of two male experimenters began by having participants complete a background questionnaire. This questionnaire included an index of the certainty of participants' beliefs about women's roles that was embedded in a series of distractor items taken from Crowne and Marlowe's (1960) Social Desirability scale. The certainty measure was composed of the 10 MFRQ items used in the pretest. Participants read each question and indicated how certain they were of their response to it by completing a scale ranging from 1 (*not at all certain*) to 5 (*very certain*). The sum of participants' responses to this index (coefficient $\alpha = .89$) was used to classify them as *low* or *high* in belief certainty. Experimenters remained blind to participants's scores on the certainty measure.

The manipulation of leading question strategy. After they completed the certainty measure, the experimenter explained that the participants' task would be to answer a series of questions pertaining to sex role preferences. He then asked 10 leading questions. In the conventional-strategy condition, the questions encouraged targets to make inconsistent (i.e., liberal) statements about women's roles (e.g., "Why do you think women make better bosses than men?" "What do you like best about men who are sensitive to others?" "What do you like most about taking the initiative in a dating relationship?"). In the paradoxical-strategy condition, the questions encouraged targets to make extremely conservative statements (e.g., "Why do you think men always make better

[1] In any event, subsidiary analyses indicated that the amount of belief change displayed by moderate certains was not reliably different from zero.

bosses than women?" "What do you like best about very masculine men?" "Why do you sympathize with the feelings of some men that women are better kept barefoot and pregnant?"). In the nonleading questions condition, the questions were relatively balanced (e.g., "Are some jobs better suited to men than women? If so, which jobs?" "How do you feel about very masculine men?" "How do you feel about taking the initiative in a dating relationship?").

Participants' verbal responses to the leading questions were recorded. After participants gave their last response, they completed a final measure of beliefs about women's roles. This measure consisted of all 34 items from the MFRQ. Participants were then debriefed, thanked, and dismissed.

Ratings of resistance to the leading questions. After all the sessions had been completed, the questions were deleted from the audiotapes of the interactions so that only participants' answers to the questions remained. Three male and three female upper-division undergraduates who were blind to condition then rated the tapes.

We instructed raters to listen to each participant's responses and indicate the extent to which the respondent (a) disagreed with the interviewer's line of questioning; (b) seemed eager to agree with the interviewer's questions; and (c) did not see eye to eye with the interviewer regarding the proper role of women. Raters responded to each item on scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Responses to the three resistance questions were summed to provide a composite index of participants' resistance to the questions after recoding scores on the second item. The internal consistency of this index (.75, according to coefficient alpha) and the interrater reliability (.64, according to an intraclass correlation coefficient) were both respectable. None of the raters were able to guess that participants in the different conditions had answered different questions.

Results and Discussion

Resistance to the Questions

Were high-certains more inclined to resist the premises inherent in the leading questions than low-certains? A 2 (low or high belief certainty) × 2 (conventional strategy or paradoxical strategy) analysis of variance (ANOVA) of resistance to the questions revealed a marginally reliable effect of the belief-certainty variable, $F(1, 27)$ 3.41, $p < .08$, such that high-certains (M = 3.62) resisted more than low-certains (M = 3.38). There were no main or interactive effects of the strategy variable (Fs < 1).

Belief Change

We expected that the relatively high levels of resistance displayed by high-certains would lead to substantial change in the paradoxical-strategy condition but to minimal change in the conventional-strategy condition. We also expected that the relatively low levels of resistance displayed by low-certains would lead to substantial belief change in the conventional-strategy condition but to minimal change in the paradoxical condition.

To test these predictions, we first determined that there were no preexisting differences in the beliefs of participants by performing a 2 (low or high belief certainty) × 3 (conventional strategy, paradoxical strategy, or control) ANOVA of pretest scores. As expected, there were no main or interactive effects of certainty or strategy (all Fs < 1). Having established this, we computed an index of the extent to which participants changed their beliefs in a liberal direction and submitted these scores to a 2 (self-certainty) × 3 (strategy) ANOVA. As can be seen in Rows 3 and 6 of Table 1, the results confirmed our predictions. The ANOVA revealed an interaction between self-certainty and strategy only, $F(2, 38) = 3.37$, $p < .05$. That is, just as low-certains tended to display more belief change in the conventional condition relative to the paradoxical and control conditions, $F(1, 17) = 6.05$, $p < .03$, high-certains displayed more change (although not reliably so) in the paradoxical condition relative to the conventional condition and control conditions, $F(1, 23) = 2.20$, $p < .16$. Further support for our conclusions were provided by an analysis of covariance (ANCOVA) that revealed a marginally reliable interaction between certainty and strategy, with posttest scores treated as the dependent variable and pretest scores as the covariate, $F(2, 37) = 2.68$, $p < .081$.

Table 1
Impact of Self-Certainty and Strategy on Resistance and Belief Change: Study 1

Strategy	Self-certainty: Low	Self-certainty: High
Paradoxical		
Pretest[a]	28.7	30.6
Posttest[a]	26.8	25.6
Change[b]	1.9	5.0
Conventional		
Pretest	30.3	28.9
Posttest	23.1	27.1
Change	7.1	1.8
Control		
Pretest	28.0	28.1
Posttest	28.3	26.0
Change	−0.3	2.1

[a] Higher numbers indicate more conservatism. [b] Pretest minus posttest. The more positive the number, the more change in a liberal direction.

The aggregate data, then, suggested that the tendency to resist leading questions diminished belief change in the conventional conditions but promoted change in the paradoxical conditions. The within-cell correlations offered some, albeit weak and nonreliable, support for this conclusion, in that resistance was associated with less belief change in the conventional conditions, $r = -.28$, $p = .16$, and more belief change in the paradoxical conditions, $r = .03$, *ns*.

Study 2

Although the results of Study 1 supported our expectations, they left several questions unanswered. One question concerns the mechanism underlying the paradoxical effect. For example, it may be that participants in the paradoxical condition actually modified their perceptions of their own liberalness. Alternatively, they may have maintained their views of themselves but revised their perceptions of the liberal–conservative dimension. That is, it may be that the paradoxical questions led them to realize that there existed a brand of conservatism that was much more extreme than any they had ever encountered. Thus, they may have adjusted their self-ratings, not because they changed their perceptions of themselves, but because they now recog-

nized that their own beliefs were relatively liberal if viewed in the context of a dimension that included truly extreme right-wingers. Including extreme right-wingers in one's view of the liberal–conservative dimension should cause people to impute more liberalness to specific examples of liberal and conservative statements. One purpose of Study 2 was to test this possibility.

Study 2 was also designed to determine whether the paradoxical effect would replicate using a somewhat different subject population and set of procedures. In particular, in this study we sought to change the beliefs of male liberals rather than of female conservatives and measured belief certainty in a pretest session rather than during the experimental session proper.

Method

Participants

We recruited 43 male undergraduates enrolled at the University of Texas at Austin by offering them credit in their introductory psychology class. Participants were drawn from a sample of students who were pretested at the beginning of the semester. We recruited individuals who scored below the median on a 10-item subset of the male version of the MFRQ, thereby ensuring that all participants possessed relatively liberal beliefs concerning women's roles. In addition, we recruited only those individuals whose certainty scores on the MFRQ placed them in the upper or lower third of the sample. Four participants were eliminated from the analyses because they completed one or more measures improperly.

Procedure

The procedure deviated from that used in Study 1 in several ways. We added two measures to the pretest: an index of belief certainty and a conceptions-of-liberalness questionnaire. The latter measure asked participants to rate a series of 15 statements pertaining to sex roles (e.g., "A woman should feel comfortable making more money than her husband," "Women are better suited to caring for children than are men," "Women body-builders are an example of women's liberation going too far.") on a scale ranging from 1 (*extremely conservative*) to 7 (*extremely liberal*).

The procedure itself was not modified except that we administered a different "background questionnaire" at the beginning of the session and omitted the no-questions control group. Moreover, because our sample was composed of liberals instead of conservatives, we asked participants in the paradoxical condition questions that probed for evidence of extreme liberalism and participants in the conventional condition questions that probed for evidence of conservativism. Also, the experimenter in this investigation was a woman.

After answering the leading questions, participants learned that the experiment was over. The experimenter then mentioned that a psychology professor was looking for volunteers to complete a questionnaire that he was developing. All participants agreed and were given a questionnaire that included 10 items from the MFRQ, thereby enabling us to compute a measure of self-rating change. At this time participants also completed 15 items from the conceptions-of-liberalness questionnaire, which served as a basis for examining possible changes in people's conceptions of the nature of liberal versus conservative responses.

After all the experimental sessions were completed, we had four raters (blind to participants' certainty levels) listen to both channels of the interviews and judge the extent to which the participant resisted each of the experimenter's questions on a scale ranging from 1 (*no resistance*) to 7 (*high resistance*). Six participants could not be rated due to a recording error. Ratings of all nine of each participant's answers were averaged to create a composite index of resistance. Interrater reliability was .97, according to an intraclass correlation coefficient.

Results and Discussion

Resistance to the Questions

Were high-certains more inclined to resist the premises inherent in the leading questions than low-certains? The data were consistent with this prediction. A 2 (low or high belief certainty) × 2 (conventional strategy or paradoxical strategy) ANOVA of resistance to the questions revealed a marginally reliable effect of the belief-certainty variable, $F(1, 29) = 3.75$, $p < .06$, such that high-certains ($M = 4.08$) resisted the questions more than low-certains ($M = 3.49$). The analysis also revealed that participants in the conventional condition offered more resistance to the questions than did those in the paradoxical condition, $F(1, 29) = 21.31$, $p < .01$.

Belief Change

We first assessed whether there were differences in the beliefs of participants on the pretest. A 2 (certainty) × 2 (strategy) ANOVA of pretest scores revealed a main effect of the certainty variable only, $F(1, 35) = 25.35$, $p < .001$. Because this main effect could not explain the predicted interaction between certainty and strategy, we proceeded to compute an index of the extent to which participants changed their beliefs in a conservative direction and submitted these scores to a 2 (self-certainty) × 2 (strategy) ANOVA. The means in Rows 3 and 6 of Table 2 reveal a reliable interaction between self-certainty and strategy, $F(1, 35) = 11.34$, $p < .002$. Just as high-certains displayed more belief change in the paradoxical condition than in the conventional condition, $F(1, 18) = 8.51$, $p < .01$, low-certains displayed a marginally reliable tendency to change more in the conventional condition than in the paradoxical condition, $F(1, 17) = 3.43$, $p < .09$. The results of an ANCOVA complemented these analyses by revealing a reliable interaction between certainty and strategy, with posttest scores treated as the dependent variable and pretest scores as the covariate, $F(1, 34) = 8.09$, $p < .008$.

As in Study 1, then, the aggregate data suggested that resistance diminished self-rating change in the conventional conditions but promoted change in the paradoxical conditions. The relevant correlations, although not reliable, were consistent with this conclusion in that resistance was associated with less belief change in the conventional conditions, $r = -.27$, and more belief change in the paradoxical conditions, $r = .17$.

Finally, additional analyses revealed that the certainty and strategy variables had no main or interactive effects on participants' conceptions-of-liberalness (all Fs < 1). This suggests that changes in people's self-rated liberalness reflected true shifts in their self-views rather than changes in their perception of the nature of the liberal–conservative dimension.

Meta-Analyses of Studies 1 and 2

Although the pattern of results from Studies 1 and 2 are compatible with our major hypotheses, some of the specific comparisons were marginally significant in one or both studies. Meta-

Table 2
Impact of Self-Certainty and Strategy on Belief Change: Study 2

Strategy	Self-certainty	
	Low	High
Paradoxical		
Pretest[a]	26.56	18.67
Posttest[a]	27.11	25.44
Change[b]	0.56	6.78
Conventional		
Pretest	25.10	20.91
Posttest	29.30	22.0
Change	4.20	1.09

[a] Higher numbers indicate more conservatism. [b] Posttest minus pretest. The more positive the number, the more change in a conservative direction.

analyses, however, revealed that all of our major findings were reliable if the results of the two studies were combined (e.g., Rosenthal, 1978). For example, these analyses indicated that, overall, high-certains resisted the questions more than low-certains, $Z = 2.57$, $p < .005$. Similarly, the analysis of belief change revealed a reliable interaction between certainty and strategy, $Z = 3.58$, $p < .001$. Just as high-certains displayed more belief change in the paradoxical condition than in the conventional condition, $Z = 2.86$, $p < .002$, low-certains displayed more belief change in the conventional condition than in the paradoxical condition, $Z = 2.82$, $p < .003$ (as specified by the method of adding Zs [Rosenthal, 1978], all *p*s are one-tailed).

General Discussion

Our findings suggest that change agents should use different persuasion strategies for different people. Just as individuals who are low in belief certainty seem especially susceptible to conventional strategies of persuasion, those who are high in belief certainty seem particularly susceptible to paradoxical strategies of persuasion.

Why should belief certainty make such a difference? Consider first the reactions of low-certains to persuasion strategies such as the leading questions technique. Because they are less invested in their beliefs than high-certains, when asked leading questions low-certains tend to follow implicit rules of communication that encourage them to confirm the premises inherent in the questions—even if doing so means making statements that contradict their initial beliefs. Having made such statements, low-certains apparently infer that they believe what they said (e.g., Bem, 1972).

High-certains, on the other hand, are invested in bringing others to see them as they see themselves (e.g., Swann, 1983, 1987), they tend to resist the efforts of others to bring them to make counterattitudinal statements. Conventional strategies of persuasion, therefore, have little impact on the beliefs of such individuals. The paradoxical strategy, however, capitalizes on the tendency for high-certains to resist influence attempts. That is, the paradoxical strategy works by encouraging people to make statements that are consistent with but slightly more extreme than their own beliefs. High-certains resist such overtures by making statements that are inconsistent with their initial positions and then bring their beliefs into line with such statements.

Our findings lend further support to the notion that belief certainty is a unique psychological construct that has important behavioral consequences. We found, as did Swann and Ely (1984), that certainty underlied the extent to which people resisted challenges to their beliefs. Other research (Pelham & Swann, 1987) suggests that certainty can be distinguished from related variables such as importance. Considered together, these data suggest that the certainty variable is best understood as a measure of cognitive investment in beliefs that is relatively independent of what those beliefs are. From this perspective, belief certainty fuels people's active responses to perceived challenges, with high levels of certainty energizing active resistance to challenges and low levels of certainty leading to passive acceptance of challenges.

An interesting theoretical issue concerns the relation between paradoxical effects and reactance effects (Brehm, 1966; Wicklund, 1974). We believe that paradoxical effects are motivated by an effort for people who are certain of their beliefs to verify those specific beliefs by bringing others to see them in a manner that is consistent with those beliefs. In contrast, reactance effects seem to be driven by an independent tendency for people who construe themselves as autonomous to want to affirm this belief. From this perspective, both paradoxical effects and reactance effects may be understood as members of a larger class of self-verification effects, some of which occur in the service of verifying specific self-relevant attitudes beliefs and some of which occur in the service of maintaining general conceptions of self.

Whether resistance activities are designed to maintain people's attitudes about women or their perceptions of their own autonomy, it is important to note that such activities may have *interpersonal* as well as cognitive consequences. In particular, resistance processes, such as those in which our participants engaged, may actually alter the nature of people's personal relationships. For example, consider the wife who asks her husband (who happens to be a closet conservative) if he believes that women should be kept barefoot and pregnant. In the interest of having somewhere to sleep that night, he may quickly assert that he is far too liberal to entertain such an old-fashioned viewpoint. He may regret his pronouncement later, however, when his wife reminds him that he is now "on record" as claiming that he is something of a liberal. From then on, his wife may demand that he continue to honor the liberal identity that he has negotiated with her by sharing in household tasks and child-rearing activities. In this way, overt behavioral responses to paradoxical influences may establish a set of mutual expectations that lead to permanent changes in the way that people think about themselves and in the very nature of their social relationships.

Summary and Implications

Inspired by recent evidence that people who are highly certain of their beliefs tend to resist conventional strategies of be-

lief change, we attempted to develop a change strategy that would use the resistance activities of individuals high in belief certainty to promote change. To this end we devised a paradoxical strategy that consisted of posing *superattitudinal* leading questions (questions that encouraged respondents to make statements that were consistent with, but more extreme than, their own viewpoints). We found that individuals who were high in belief certainty (but not those low in certainty) tended to resist such questions and accordingly changed their beliefs in the opposite direction. A second investigation replicated this effect and provided evidence that paradoxical injunctions change people's positions on the belief dimension rather than their perception of the dimension itself. This evidence that only some people resist influence attempts may help explain why reactance effects have been notoriously weak and difficult to replicate (for a review, see Eagly & Chaiken, 1985). Conceivably, had researchers identified individuals who were invested in maintaining their beliefs, they would have experienced more success in their efforts to demonstrate reactance processes.

Our data may also be relevant to forms of therapy that rely on the resistance activities of clients as a means of promoting change (e.g., Coyne, 1985; Watzlawick et al., 1974; Weeks & L'Abate, 1982). By specifying the mechanisms that mediate such paradoxical effects, our work may help to clarify the conditions under which such therapeutic techniques may be most effective.

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