

A REEXAMINATION OF THE
FAITHFUL SUBJECT ROLE

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Barry Spinner

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ABSTRACT OF THESIS

Fillenbaum (1966; Fillenbaum & Frey, 1970) has proposed that a faithful subject role may be adopted within experiments i.e., that a large proportion of subjects who form hypotheses regarding the nature of an experiment will provide data that are not influenced by their suspicions. His postulation of this role was based on the finding that subjects who were suspicious of being subsequently tested for recall of a prose passage nonetheless did not show 'incidental' learning of its content, nor did they report any attempts to learn the passage. Although the faithful subject role has been generally accepted (Weber & Cook, 1972), and Fillenbaum's demonstration of it regarded as valid, examination of the procedures of the studies on which it was based, casts doubt on whether Fillenbaum's subjects were truly faithful or whether they may have become aware of the nature of the deception after all opportunity to bias results (learn the passage) had passed. To test this hypothesis, in the present study, suspiciousness measures were presented prior to incidental learning measures, and, the data for these subjects compared with the data obtained through a replication of Fillenbaum's procedure.

In addition, subjects were administered a scale designed to assess how actively they search for the experimenter's hypothesis, and how likely they are to bias results. It was predicted that in comparison to those who scored as passive, those who scored as active would be more likely to become aware of the deception and bias results.

The data supported the first hypothesis, but not the second. Discussion concerned the role that subjects had adopted, the ecological validity of faithful data, and the use of post-experimental questionnaires in psychological research.

TABLE OF CONTENTS

CHAPTER		PAGE
I	INTRODUCTION	1
	Empirical Evidence for the Faithful Role	3
	Statement of the Problem	11
II	METHOD	14
	Subjects	14
	Design	14
	Materials	14
	Procedure	17
III	RESULTS	19
IV	DISCUSSION	26
	Implications for Future Research	29
	FOOTNOTES	32
	REFERENCES	33
	APPENDIX A	35
	APPENDIX B	55
	APPENDIX C	62

LIST OF TABLES

TABLE		PAGE
1	Observed frequencies in the unaware, faithful, and, biased classifications as a function of treatment	20
2	Observed frequencies of unaware, faithful, and, biased subjects for the present study and Fill- enbaum's experiments	22
3	Mean scores on the incidental learning measure	24
4	Summary of analysis of variance for scores on the incidental learning measure	25

CHAPTER I

INTRODUCTION

A number of problems arising from the social nature of psychological research have recently been identified. According to Orne (1962) these difficulties are due to the fact that while the individual is regarded as an active, thinking organism outside the laboratory, he is viewed by researchers as a passive responder to the experimental situation. In contrast to this passive image, Orne suggested that the subject's active perception of the experiment, of his role in it, and of the stimuli the experimenter manipulates, have a significant effect on the subject's behaviour. He proposed that subjects are generally motivated to cooperate with the experimenter, and that they often base their responses on cues to the experimenter's hypothesis (demand characteristics) which are present within the experimental situation. Thus, instead of responding to the experimental treatment, subjects may perceive demand characteristics revealing the experimenter's hypothesis which they proceed to confirm. Subsequent research has further explored subject motivation and behaviour in an attempt to test Orne's theory. However this research has not always been supportive; often it has been found that subjects do not behave so as to confirm the experimenter's hypothesis.

In their review of the studies on subject motivation, Weber and Cook (1972) found it appropriate to fit a role theory interpretation of subject behaviour to these findings. In addition to Orne's good

subject role, they identified three other subject roles which they believed could be supported by the data: the negativistic, apprehensive, and, faithful subject roles.

The negativistic subject role was first conceptualized by Masling (1966) as the 'screw-you' effect. In contrast to the good subject, the subject who adopts this role attempts to disconfirm what he perceives to be the experimenter's hypothesis (Cook, Bean, Calder, Frey, Krovetz & Reisman, 1970). Presumably, this subject is motivated by psychological reactance (Brehm, 1966); he rebels against having his behaviour manipulated or controlled and expresses his independence by performing contrary to perceived expectancies.

The apprehensive subject (Rosenberg, 1965) is seen as one who is anxious about how he will be evaluated by others. His presumed motivation is to present himself as favourably as possible. Thus when he perceives he will look good by cooperating with the experimenter, he does so; when confirming the experimenter's hypothesis does not allow a subject to appear in a positive light, presumably he will opt for a strategy that will make him look good.

Subjects who adopt the good, negativistic or apprehensive roles tend to provide data that are biased in one direction or another. In contrast to this, there is evidence that in certain restricted situations subjects provide faithful, unbiased data (Fillenbaum, 1966; Fillenbaum & Frey, 1970). In their discussion of the faithful subject role, Weber and Cook (1972) distinguished between two versions. The active version assumes the subject to be very concerned with

providing unbiased, valid data. The passive version views the subject as docile and largely uninvolved in the experimental situation. This subject is unlikely to discover a hypothesis, or to base his responses on one he is provided with.

Empirical Evidence for the Faithful Role

Several studies can be interpreted as being supportive of the hypothesis that subjects will, in certain situations, adopt an active faithful role. Brock and Becker (1966) conducted two consecutive experiments with the same subjects. In the first, subjects were exposed to deception and then were either completely debriefed, partially debriefed, or not debriefed at all. In the second, subjects either caused low or high damage to the experimental apparatus, and, there was or was not a common cue linking the two experiments. The dependent measure was the subjects' willingness to sign a strongly counter-attitudinal petition. Subjects in the high damage condition were the only ones who signed, and analysis revealed that neither prior deception nor common cues affected performance. Fisher exact tests indicated that in the case where subjects caused high damage, the complete debriefing-common cues treatment reduced compliance. However, Weber and Cook (1972) reanalyzed these data using two-tailed tests, and found that this difference did not reach acceptable levels of significance. In general then, it appears that subject behaviour was not affected by either the prior deception or common cues treatment. Unfortunately, interpretation of these data is difficult. No

attempt was made to assess how many subjects in each condition were aware of the link between the petition signing and the rest of the experiment and so it is impossible to determine if a faithful role was indeed adopted.

Cook et al. (1970) reported two studies which may also support the faithful subject role. In the first study subjects either were or were not exposed to four deceptions and debriefings before taking part in the critical experiment on attitude change. The results indicated that the two treatments did not lead to differences on the final dependent measure. These results might indicate that subjects who experienced the prior deception adopted an active faithful role, if the assumption is made that these subjects were more likely to be aware of the nature of the final deception. Unfortunately, although subjects were administered a post-experimental questionnaire, levels of awareness were not assessed. However, the post-experimental data did reveal that compared to those who did not experience deception, those who did cared less about understanding and following the experimental instructions, believed the experimenter less, and saw experiments as less scientific and less valuable. This suggests that rather than adopting an active faithful role, subjects who were deceived became passive, and, did not bother to search for nor act upon a hypothesis.

In their second study, Cook et al. exposed subjects to two consecutive attitude change experiments. In the first, subjects were deceived, and either not told about it, read about deception in general, or, were told that they had been deceived. The second experiment either

did or did not have a cue in common with the first. In the condition where there were no common cues, experiencing deception resulted in less attitude change than did the other two treatments. Thus, subjects who were told of the initial deception did subsequently bias their responses, and were not faithful. However, these differences between the groups disappeared when subjects were given cues which linked the two experiments. Once again no attempt was made to assess hypothesis awareness, and so, it is unclear whether the common link served to cue subjects into an active faithful role, equalized awareness across conditions, or resulted in subjects becoming passive.

Cook and Perrin (1971) partially replicated the procedure used by Cook et al. in their second study. Subjects participated in a first experiment where they experienced no deception, read of deception in general, or experienced deception. Subsequently, subjects either were or were not told deception was involved in the following experiment. Unlike the results of the study by Cook et al., a measure of attitude change did not discriminate between conditions. On the other hand, the data from a measure of subjects' retention of the persuasive message did show a pattern similar to that found by Cook et al. with their attitude measure. When there was no cue to deception, subjects who had experienced the initial deception retained more of the message than those who did not experience it. These differences disappeared when a cue to deception was provided. Again levels of hypothesis awareness were not assessed. If it is assumed that subjects who experienced the initial deception were

more likely to be aware of the attitude change hypothesis than those who did not, then the results could be interpreted as being due to either active faithful or passive behaviour. On the other hand, the subjects who experienced deception may have been 'aware' of the wrong hypothesis, i.e. the hypothesis that the deception was related to retention of the material rather than to attitude change. Such an interpretation would be consistent with the finding that these subjects did indeed learn the message better.

In summary, each of these studies provided data that can be interpreted as supportive of the active faithful role. However, conclusions based on these data must remain tentative as levels of subject awareness were not assessed and alternative forms of subject motivation may have been operative in each study.

The strongest support for the faithful subject role has been obtained in a series of studies by Fillenbaum (1966; Fillenbaum & Frey, 1970). In each study the general experimental procedure consisted of two parts: (a) a preliminary task typically involving a mild deception, and (b) a word cancelling task followed by a measure of incidental learning. In the first study (Experiment I, 1966) subjects were provided with two lists of adjectives, with four positive adjectives in the first list, and four negative adjectives in the second. Subjects were asked to construct one character sketch based on each of the lists. Experimental subjects were subsequently informed that the two adjective lists actually represented only one person, and were told to reconcile the two sketches. After completing

this third character sketch, subjects were informed that:

"...what was said initially about a task might not cover all that was going to happen or to be required of them as subjects, and that sometimes experiments required that subjects be deceived initially." (p.534)

The second stage of the study ostensibly consisted of a word cancelling task. Subjects were provided with a prose passage, complex instructions to follow, and were told to work accurately but quickly as they would be timed. In actual fact, this was an incidental learning task. After completing the word cancelling and a subsequent check for errors, subjects were asked to answer thirteen items on the content of the passage. This test of incidental learning served as one dependent measure of the degree to which subjects were faithful. Those subjects who were aware that they would be questioned on the passage, and wished to do well, presumably would have tried to learn the passage, thus biasing their results. Finally, a post-experimental questionnaire was administered to assess hypothesis awareness and attempts to bias results.

Fillenbaum found that the initial deception had no effect on levels of awareness or response biasing. Both groups reported relatively high levels of awareness; 55% and 57% for control and experimental subjects respectively. What led Fillenbaum to conclude that subjects were faithful, was that those who were aware of the upcoming test scored no higher on the incidental learning test than those who were unaware. Furthermore, only 13% of all subjects reported attempting to bias results, and indeed, these subjects

scored significantly higher on the incidental learning test than those who reported awareness and did not attempt to learn the passage.

In Experiment II in the same paper, Fillenbaum introduced a manipulation of the amount of information given subjects concerning deception in psychological experiments. His procedure was virtually identical to that in the first experiment. Both control and experimental subjects experienced the initial deception and subsequent debriefing. However, both prior to and following this deception, experimental subjects were additionally told that a good subject:

"...always tries to find out what is going on, to anticipate what is going to happen, so that he can do as good a job as possible." (p.535)

Even with this added manipulation, on the basis of scores on the incidental learning measure, no significant treatment effects were observed in this second experiment. Levels of hypothesis awareness (35% and 50% for controls and experimentals respectively) also did not differ significantly. The finding that only 25% of all subjects biased their responses, while 42.5% were hypothesis aware, again led Fillenbaum to conclude that the large majority of his subjects were faithful. Fillenbaum and Frey (1970) partially replicated this procedure in a third study. However, rather than simply manipulating levels of suspiciousness, they attempted to preselect subjects so as to maximize the strength of the suspicion variable. Subjects completed a four-item measure on their understanding of the

experimental situation and of their role as subjects. Participants were then classified as being predisposed to trust the experimenter and cooperate with him ('trustful' group), or, to suspect him and not cooperate ('suspicious' group). Several weeks later, subjects took part in an experiment in which they were exposed to the experimental treatment used in Experiment I (Fillenbaum, 1966). Levels of hypothesis awareness (39% and 59% for the trustful and suspicious groups respectively) once again did not differ significantly. Consistent with earlier results, only 23% of all subjects attempted to bias results. A marginally significant main effect ($p < .079$) for the incidental learning test was found, with suspicious subjects demonstrating greater incidental learning. This pattern of results led Fillenbaum to conclude that the faithful subject role had again been demonstrated.

In summary, the results of each of these studies was interpreted by Fillenbaum as evidence for the prevalence of the faithful subject role. While within each experiment he consistently found about 50% of his subjects to be hypothesis aware (actual levels ranged from 42.5% to 56%), response biasing stayed considerably lower, ranging from 13% to 25%.

Fillenbaum's results appear to provide the only clear, consistent support for the faithful subject role. However, his case for the faithful subject role is reasonable only if a major assumption underlying his interpretation is tenable: that subjects who reported hypothesis awareness became aware before or during the word cancelling

task, i.e., at a time when they could still bias their responses. There are several points in Fillenbaum's procedure which suggest that this assumption may not be tenable.

First, the incidental learning test, consisting of questions on the content of the passage and providing ample information as to the nature of the deception, was introduced before the awareness measure. Thus, awareness may have occurred after all opportunity to learn the passage and bias results had passed. Second, informing subjects of the initial deception, a point which "...was painfully clear to most subjects..." (Fillenbaum & Frey, 1970; p. 45), and telling them that deception is common in experiments may have created strong demands for subjects to report any suspicions they had. These two factors in combination may have both permitted and encouraged subjects to report awareness on the post-experimental questionnaire although awareness occurred after the opportunity to bias results had passed. Therefore it is not clear that the subjects who were reported as being faithful actually were.

Some indirect support for this interpretation is available from Fillenbaum (1966). He reports that some of his subjects were motivated to perform faithfully because:

"...they felt their job was to do as well as possible on the task (i.e. the cancelling task), and therefore they could not let themselves become distracted by other possibilities."
(p.535)

Three separate aspects of this statement create doubt as to whether subjects were aware of the nature of the deception at the appropriate time. First, subjects were given as much time as they wanted to check their work on the word cancelling task. Thus, they had ample time to learn the passage without it interfering with their performance on the word cancelling task. Second, it is clear from the above statement that subjects were quite concerned about their performance on the task. If they were truly hypothesis aware, it is likely that they would have been at least as concerned about their performance on the incidental learning measure as on the word cancelling task. Finally, given the fact that subjects considered any hypotheses other than the one provided only to be possibilities, indicates that they may have suspected deception, but, while doing the word cancelling task, were unsure of its true nature.

Statement of the Problem

If the foregoing analysis is correct, then the interpretation of Fillenbaum's data, and the demonstration of the faithful subject role, is still open to question. The difficulty with his procedure appears to be the timing of the awareness measure. It is the contention of the present author that if he had assessed awareness before measuring incidental learning, he would likely have found lower levels of awareness that were more comparable to the levels of response biasing he found. With these results, there would be little

support for the active version of the faithful subject role.

In order to test this hypothesis, the timing of the awareness measure was manipulated in the present study so that one-half of the subjects received it after the incidental learning test, i.e., Fillenbaum's treatment, while the other one-half received it before the incidental learning measure. It was hypothesized that those in the latter condition would show lower levels of faithfulness than those in the former.

As reported earlier, Fillenbaum and Frey (1970) found marginal individual differences in response biasing according to how subjects were classified on the basis of their four-item measure of suspiciousness. In view of their limited test of this hypothesis, it seemed appropriate to attempt to improve upon their scale in order to test the effects of such individual differences on faithfulness. The measure of subject motivation was designed to assess levels of subject activity in the laboratory. Similar to Fillenbaum and Frey's measure, the scale was designed to assess the degree to which subjects actively search for a hypothesis, and their tendency to allow hypothesis awareness to influence their behaviour. Subjects who scored at one end of the scale were classified as 'active' (similar to Fillenbaum and Frey's suspicious subjects), while those at the other extreme were classed as 'passive' (similar to the trustful subject). It was expected that active subjects, in comparison to passive subjects, would be more likely to become aware of the nature of the deception, and more likely to bias their results.

Confirmation of the above hypotheses would have important implications for the prevalence of the faithful subject role. Positive results would indicate that the active version of the faithful subject role is adopted by relatively few subjects and is not as wide spread as has been concluded. Obtaining the predicted results on the test of subject motivation would indicate that subjects do enter the experimental situation with different levels of motivation which have significant effects on their behaviour.

In summary, the hypotheses were as follows:

1. Those subjects scoring as active on the premeasure were expected to show higher levels of hypothesis awareness and biasing than those who scored as passive.
2. Those subjects who were administered the awareness measure before the test of incidental learning would have lower levels of reported faithful behaviour than those who were administered it after the incidental learning test.

CHAPTER II

METHOD

Subjects

The subjects were 45 male undergraduates registered in several sections of the introductory psychology course at the University of Manitoba. Subjects volunteered in order to partially fulfill an experiment-participation requirement.

Design

There were two independent variables with two levels of each. The first was subject scores on a test of subject motivation in experiments (active vs. passive). The second was whether the test of awareness was administered before or after the incidental learning test (early vs. late).

Materials

Test of subject motivation. A test designed to assess how actively subjects search for the experimenter's hypothesis, and how likely they are to bias results was constructed. The original version of the "Subject Questionnaire" contained 28 Likert-type items. Subjects were required to indicate how much they agreed or disagreed with each item by responding on a five point scale. In order to counter the effects of response sets, one-half of the items were worded so that agreement with the statement constituted an active

response, while agreement with the other one-half constituted a passive response. These items were pretested on 55 male and female undergraduates at the University of Manitoba. Item analyses were performed on these data in order to select those items which correlated significantly with the total test score at the 5% level or better. This resulted in a reduction of the length of the test to 18 items.

To select subjects for the experiment, this revised version of the Subject Questionnaire (Appendix A) was administered to 67 males approximately 1½ months prior to the beginning of the experiment. A post-experimental interview indicated that none of the subjects perceived a relationship between the Subject Questionnaire and the experimental session. Scores from this administration ranged from 27 to 74 with a mean of 46.0, a median of 45.5, and a standard deviation of 9.6. The reliability was found to be .80 by Hoyt's estimate of reliability. According to their total score on the Subject Questionnaire subjects were divided at the median into active and passive groups. Individuals from this group of 67 were contacted by telephone and were asked to participate in the experiment. The first 45 subjects to agree to participate were employed in the experiment. Twenty-three of these subjects were classified as passive, and 22 were classed as active.

Experimental materials. Since the original experimental materials used by Fillenbaum were unavailable¹, equivalent ones were developed. These included the prose passage, the word cancelling instructions, the incidental learning test, and the measure of subject awareness.