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USE OF HUMAN RESPONDENTS IN RESEARCH:
PROBLEMS AND COPING STRATEGIES

By

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INTRODUCTION

Most of the research on human behaviour deals with attitudes, opinion, morale, job satisfaction, and their perceptions regarding social, economic, political and other such aspects of life in general and work life in particular. If one scans the variety of research topics and themes, one finds a wonder list ranging from very intimate sexual behaviour (e.g. Kinsey et. al., 1953; Peckard, 1968) to how they react in to a large collectivity (e.g. Benedict, 1934; Mead & MacGregor, 1957). A variety of methods (questionnaires, interviews, observation, participative observation, and so on) are used to collect data both in contrived as well as natural settings. Special methodological problems ^{, however, arise} ~~are, however,~~ raised when human beings are used in research (social-psychological research in particular), mainly because their thoughts affect their responses. In fact, in any research using human beings, the respondents would not be passive but would participate actively. For example, in the West, where the university regulations make it obligatory for the sophomore (1st year of University) students to become

respondent for atleast 4-5 hours before going to 2nd year, most social psychological research are to suspect. McNemar (1946) has verbalized this uneasiness when he says, "the existing science of human behaviour is largely the science of the behaviour of sophomores."

Studies have shown that there are three ways in which the respondents can react to the research situation:

1. By being "faithful" subject* (Fillenbaum, 1966). Here the respondents are faithful because they follow only those instructions that have been given and refuse to, deliberately or otherwise, seek extra information. Their performance according to this is not influenced by suspicion.
2. By being "good" subject (Orne, 1962). Here, they are good because they try to seek the real purpose of research and modify their response to fulfill this purpose.
3. By being "Negativistic" subject (Masling, 1966). Here they are negativistic because they want to be uncooperative and so give responses that would deliberately contradict the objectives of the research. For them satisfying the objectives of research is being controlled and manipulated by researcher.

* In most social psychological research subject(s) is used to refer to respondent(s). In this paper we will use the two interchangeably.

These and possibly other ways of reacting to research situations perhaps contaminate the real picture of the research outcome. Sometimes the respondents' conception of their role and their understanding of research (experiments), and appropriate behaviour of a participant could have important impact on their performance. How could one be sure of the internal validity and reliability of research result? This paper examines this problem in details. It provides an extensive literature review, looks at the reasons for this source of contamination, and discusses a few coping strategies.

LITERATURE SURVEY

The interest in this problem started as early as 1908 when pierce wrote:

It is to the highest degree probably that the subjects ... general attitude of mind is that of ready complecency and cheerful willingness to assist the investigator in every possible way by reporting to him those very things which he is most eager to find and that the very question of the experimenter suggests this shade of reply-expected.

During the most revolutionary and now classic experiment at the Hawthorne plant of Western Electric Company it was noticed that the

process of measurement influences what is being measured (Roethlisberger & Dickinson, 1947). Six female workers who worked under varying conditions of illumination, hours of work, rest period, and wage rate showed that their production increased irrespective of the changes in these conditions. The reason given by the author for this effect was that the women felt honoured at being chosen for this research. They felt that they were a team and worked together for the benefit of the group as a whole (what later came to be known as "Hawthorne effect").

Subsequent work by Orne (1962) indicated this phenomenon to be "demand characteristic", referring to the demands made on respondents. Orne suggested that asking people to take part in research has some semi-magical connotation. He asked a number of friends and acquaintances to do him a small favour. When they agreed they were asked to do five push-ups. The typical response was of a management and a question "why?". A similar group was asked to participate in an experiment. When they agreed they were asked to do five push-ups. Their typical response was "where?".

Under more controlled situation, Israel (1958) found that while responding to a questionnaire, the respondents experienced cross-pressure from the experimenter or psychology teacher; their behaviour as measured by I-scale was suggested to be due to their perception of the wishes and the expectations of the experimenter. In another study by Weaver (1960) a total of 699 respondents in 39 classes rated 12

instructors in four courses. Their ratings were found to be biased in the direction of expected grades.

The study by Parry and Crossley (1950) demonstrated how the answers even to factual questions could be influenced by the desire to look "respectable." They found that people consistently exaggerated their registration and voting behaviour. This varied from 13 per cent who falsely claimed to have voted in 1948 election to 28 percent who made fictitious claims to have voted in local elections. One third of these who reported contributing to community chest were speaking of their pious intentions and not the real contribution. Ten per cent claimed to have possessed driver's licence but did not have one. Another 10 per cent claimed to have library cards when, in fact, they had none.

In artificial social settings, as in a laboratory, the behaviour of the respondents is determined by their roles of being subjects. This creates an additional problem of generalization. A study of Block and Block (1952) pointed out that the middle class respondents almost invariably structured the situation so as to play a submissive role in relation to an authority figure. An additional point is made by French (1953). According to him:

The behaviour of the respondents in the laboratory experiments is highly restricted by the rules and procedures instituted in order to control the conditions. Frequently this simplification involves the creation of a new group which will not be influenced by its past history or its present social settings. The laws high hold for such restricted situations may not apply without changes to some complex settings of real life.

Once a person has agreed to participate in an experiment, he implicitly agrees to perform a wide range of activities without questioning the motives or the duration of the study. Furthermore, he agrees to tolerate considerable boredom, pain, and discomfort if required to do so, by the experimenter. Orne (1962) created some psychologically noxious, meaningless, and boring tasks to see how far subjects would tolerate the meaninglessness of the task. They were to perform serial additions of adjacent two numbers on sheets filled with rows of random digits. In order to complete just one sheet they were required to perform 224 additions. A stack of 2,000 sheets was given to them. They were deprived of their watches, and told to continue till the experimenter returns. Five and half an hour later the experimenter gave up. In general, they tended to continue this type of task for several hours usually with no decrease in their performance.

In a more frustrating situation, the respondents were asked to perform the same task. In addition, they were told that when they finished addition on one sheet, pick up a card from a large pile which would instruct them what to do next. The cards in the pile were identical. They instructed them to tear off the sheet of paper which they had completed in 32 pieces and continue working as they did before. It was expected that as soon as they realized that the instructions on cards were identical they would discontinue the task. However, they continued the task for several hours without any sign of hostility.

Post-experimental inquiry revealed that the subjects attributed considerable meaning to the task and thought it was some kind of endurance test (Orne, 1962).

In a different context but still related to the issue was a study by Milgram (1963). Respondents were solicited through newspaper advertisement. Forty subjects who volunteered came from a wide range of professions, age, and academic experience. They were paid \$ 4.50 for participating in the research. The money was paid before the experiment so that they could leave any time if they wanted to. The experiment could consist of ordering naive subjects to administer increasingly severe punishment to another person who failed to recall the correct nonsense syllable in a paired-associate learning situation. Punishment was administered by means of a shock generator with 30 graded switches ranging from slight shock to severe. The voltage range began with 15 volts with consistent increase of 15 volts upto a maximum of 450 volts. Shock, however, was never administered and the victim in each case was a confederate.

Fourteen respondents broke off the experiment at the point at which the victim protested and refused to provide further answers. Of these fourteen subjects, five refused to obey the experimental command beyond 300 volt level, 4 at 315, 2 at 330, and one each at 345, 360 and 375 volts. Twenty-six subjects or 65% continued to administer the shock reaching to the highest voltage level. The findings concern the sheer strength of obedience manifested in the situation. Though Milgram

argued that understanding of obedience should be based on situation in which it occurred and that in this particular case the subjects' behaviour could be explained by such things as sponsorship (Yale University), the worthiness of the purpose (growth of knowledge about learning), obligation (\$ 4.50), and authenticity of experimental settings. Nevertheless, the fact remains that the subjects continued abandoning moral tenet in following the instructions from an authority which had no special power to enforce these commands.

Sherif's (1958) classical experiments showing convergence in autokinetic situations appear to support the thesis that individuals have a need to create orderly and stable cognitive structures. However, there is some evidence to suggest that the tendencies towards structuring and order reside in the expectation that individuals bring to the situation - expectations which in part are shaped by the nature of situation itself. Alexander et. al. (1970) conducted an experiment in which the respondents were told that the pin point of light ~~was~~ physically stationary (unlike the instructions given by Sherif). The results contradicted the findings of Sherif. No norm developed. In the second experiment the respondents "overheard" a stooge to respond to a stimulus light which they themselves could not see, but it provided them an expectation. It changed their responses. The respondents converged (little or no variation over 60 trials) their judgement if stooges judgement was convergent. However, when divergent (large variation in judgement over 60 trials) judgement by stooges ~~was~~ over-heard the respondents did not converge their judgement. This suggested that the

development of norm in Sherif's experiment took place not because of inherent psychological tendencies to regard inconsequential chaos as uncomfortable but because of instructional implication, situational expectations and implied role definition.

All the studies mentioned so far support the conclusion that the respondents' expectancies and desires exert important influence on the research outcome. They show remarkable compliance to researchers' expectations. Subjects' performance in these experiments ~~be seen~~ could be seen as problem solving behaviour where they try to ascertain the purpose of the research and make every effort to support it.

POSSIBLE EXPLANATIONS

Being invited to take part in a research can both create suspicion as well as elation. Suspicion "why me" and elation "I am the chosen one." In both cases it tends to make the respondents explore and possibly identify the purpose of research and consequently their part in it. Let us look at some explanations.

1. Cues in Research

We may expect respondents to be alert to any available cue that may communicate to them the purpose of the experiment. Unstated hypotheses may be conveyed implicitly by the research procedure. Sherman (1967) hypothesized that the results in typical experiments on attitude change were vulnerable to the information in terms of responsiveness to

demand characteristics. She concluded that there is general exper- imen- timental cues making highly motivated subjects to change more. Thus experimental outcome conventionally interpreted as attitude change **could** result from role enhancement as determined both by the motivation of the subjects and also the cues intrinsic or extrinsic to the experimenter variables.

2. Desire to Cooperate

Orne (1962) who first demonstrated the effect of demand characteristics on the research outcome, felt that the respondents try to cooperate by finding out the real purpose of research and in the process help the researcher to fulfil the objectives of research. Two studies ~~questioned~~ the fact of cooperation by the respondents. According to Rosenberg (1965) the respondents have "evaluation apprehension" - a fear that they may not live up to the expectations. They, thus, try to look good to the researcher by either excellence of performance or making responses that reveal a favourable personality or adjustment.

More recently Sigall, Aronson and Van Hoose (1970) have provided an alternate explanation for the respondents cooperative behaviour. According to them his intentions are motivated by individual competency rather than by cooperation. Even if "he appeared to cooperate by confirming hypothesis, he may really only have been obedient in doing what he was told (cooperation) because he wished to look good to the researcher."

3. Social Responsibility

Given a variety of action/behaviour in a given social situation, people tend to choose/more socially desirable alternative. This is /the particularly so in situations where social values are involved. There is a tendency to "show off" the behaviour that carries more social respect. Study by Parry and Cressley (1950) points out the desire of the respondents to look "respectable" by reporting to have possessed those things that are symbols of social prestige, like library card, driving licence, and contribution to community chest even though in reality they did not.

The respondents try to intuit the purpose of research and feel apprehended about personal evaluation and impression formation that the researcher might make on the basis of their reaction. "How would I look in his eyes" is the utmost concern. In an experiment, Alexander and Knight (1971) created a situation of "insufficient justification" by manipulating the behaviour of one person as contradictory to the other and yet the responses showed socially desirable outcome. Similarly Fillenbaum (1966) showed that there were very marginal and insignificant differences in the performance between deceived and non-deceived respondents. While they had suspicion about the task, very few acted upon their suspicion. They took the role of docile respondents and followed the instructions very obediently. Why do we get right result for wrong reason? Because people are expected to choose to become persons who would be socially highly valued.

4. Respect for Authority

Respondents consider researcher as an authority figure not so much by virtue of his association with some known organization but because he is perceived as an agent of change. They think that by being involved in a research with a person who possesses authority to recommend change, they can meet their goals. Hence, they express a tendency to find out what exactly is wanted of them and make every effort to give it to researcher. Despite the fact that we have learned from childhood that it is fundamental breach of moral conduct to hurt or injure some one, yet many of us abandon this tenet in following the instructions from an authority, who have no special power to enforce these commands. Milgram's (1963) study suggests that very often obedience to instructions in an experimental setting supercedes the moral conduct.

5. Internal motivation

Another principle that might explain respondents' behaviour in the experimental settings is their initial overall motivation and their readiness to participate in the research. Much of what they do depend very much on their level of motivation. Pepitone (1950) compared highly and poorly* motivated groups on their perception of three group situations, which represented different degrees of restraints and friendliness. Groups were given opportunity to win free tickets to a University basketball game by appearing before a 4 men selection board which questioned 3 them about their knowledge of sports. In three situations the group members assumed different roles of hostility, neutrality and friendliness. The results showed that the respondents tended to magnify the

power of the board members favourable to them (facilitative distortion). Pepitone explained the behaviour of the respondents on the basis of individual needs, relation of the situation to those needs, restraining or the threatening character of the situation, and previous reality-tested perceptions. Thus the "forces leading a respondent to communicate can be thought of in terms of means-end or path-goal sequence in which the respondent gives information because he sees the information giving process as means of attaining some goals which he considers 'desirable'." (Cannel & Kahn, 1953).

6. The Fact of Volunteering in Research

Sometimes research design or the constraints require to accept volunteer as respondents: The motives to volunteer may vary from person to person and in the same person from time to time. People who volunteer for research perhaps do it for their high regards for the objectives of science. They perceive their participation as a way to contribute to the growth of science and perhaps ultimately to human welfare in general. They believe that whatever may be the experimental task, it is important and, no matter how much efforts must be exerted or how much discomfort must be endured, it is justified by the ultimate purpose.

This is further confounded by the fact that the people who volunteer have a different bio-social profile than those who do not. Rosenthal and Rasnow (1969) carried out a survey and identified several characteristics of volunteers for research. They found that volunteers, as compared to non-volunteers, tended to:

1. Be better educated
2. Have higher occupational status
3. Have higher need for approval
4. Be less authoritarian
5. Be more sociable
6. Be more arousal seeker
7. Be more unconventional
8. Be younger in age.

One wonders with this kind of profile of the sample if volunteers constitute random and representative group of larger population. They conclude that the use of volunteers may lead to seriously biased estimates of population parameters and may have potentially polluting effect on the research outcome.

COPING STRATEGIES

Given the problem, how should researcher estimate and/or control it. Since any research involving human respondents could have biased outcome what should be the coping strategy so that the researcher could be reasonably sure that his results are the outcome of research manipulation and that they could be depended upon. Most researchers concerned with the purity of results have tried one or more of the following controls:

1. The basic problem is that the respondents seek to identify the purpose of research and then react to it by either being "faithful,"

"good", or "negativistic" respondents. If the real purpose is explained so much the better. But if the real purpose is concealed they try to decipher it, sometimes going to the extent of ascribing a purpose even when there is none. Some researchers have developed ingenious and some times diabolic techniques to conceal the purpose (Sticker, 1967). The fear in the minds of researcher is that the knowledge of the real purpose of research might vitiate its' results.

If knowledge of the real purpose or the hypothesis is a problem what should be the ways and means to secure ignorance? Many researchers have tried to "deceive" the respondents of the real purpose of research. In most attitude change, research deception has extensively been used. Thus Milgram (1963) indicated simple learning as the purpose to the respondents while the real purpose was to study obedience. Similarly, Saiyadain (1969) indicated the effect of object characteristics on the numerosity judgement while the real purpose was to see the effect of communicator discrepancy and measurement delay on attitude change.

2. However deception technique requires the next logical step of finding out whether ignorance derived via deception has really been achieved or not. Hence it becomes necessary to have some kind of post-research inquiry to ascertain how much of deception has worked. Each respondent is asked to write or orally communicate as what he thought was the "real" purpose of the research. It has been found that despite deception some respondents were able to find out the real purpose. Saiyadain (1969, 1969a, 1969b) found that as many as 1 to 7 (or 1.8%

to 4.7%) and Insko, Murashima and Saiyadain (1966) identified 5% respondents who were aware of the real purpose of research despite deception. They controlled the possible distortion to the research outcome because of knowledge by simply eliminating these respondents from the analysis.

3. Another way of looking at the problem has been to eliminate the knowledge of the purpose by prior exposure of the possible deception of the real purpose of research. In their research, Brock and Becker (1966) first tested the respondents in the usual kind of laboratory experiment where they were not told the real purpose of the research. In the second phase, they were told that they were deceived and reasons for deception were given. Their results show that the debriefing immediately before the final test did not affect their sensitivity to the new research manipulation, unless there was a patent similarity between the two tests, one before and the other after the debriefing.

4. Yet in other imaginative method insuring ignorance has been achieved by simulating respondents' responses. Here the respondents are asked to pretend as if they are exposed to the research manipulation the effect of which is the focus of study (Riecken, 1962). It is a surprisingly simple but a useful method. A group of randomly selected respondents from the same population are asked to imagine that they are participating in a research. Should the design of the research require seeing the data collection tool and procedure they are shown these. They are then required to produce data as if they are really taking part in the research. Subsequently direct comparisons between with

this data and the real data are made to see the effect of being a ↳ they faithful, good, or negativistic respondent.

5. Some researchers have gone to the extent of eliminating respondents from consciously taking part in research. They are bystanders and without them being aware their reactions are judged to see how they have reacted to research manipulation. As a result of the ghastly assault on and murder of Kitty Genovese by a maniac during a March night in 1964 which was seen by 38 neighbours but none coming to her assistance, a series of studies were started by Latane and Darley (1968). The purpose was to see what caused this collective paralysis. In these studies which can be known as research on samaritanism or prosocial-behaviour, the respondents did not actively participate in the research. They filled out no questionnaire. But their natural reactions were recorded to see what caused the diffusion of responsibility.

The respondents were exposed without their knowledge to a variety of situations involving a victim who needed help. How many came to assistance and how long they took to make the first move provided enough data to see under what conditions people help. Macaulay and Berkowitz (1970) have accumulated a series of studies on altruistic behaviour which provided a wide range of phenomena ↳ used to control the knowledge of the ↳ which could be purpose of experiment. In this case it was important to note that given the nature of research, people would have helped any way because helping a victim is socially very desirable behaviour. These studies thus provide interesting example of how influence of social desirability could be eliminated.

6. In an attempt to achieve one hundred per cent ignorance of the objective of research, some methodological innovations have been explored and established. For example, participative observation technique used by anthropologists (see Benedict, 1934, Mead & MacGregor, 1957) to a large extent ensures that the study of behaviour is made in natural habitat without contaminating results. In a very interesting study Dalton (1959) worked as a worker for several years in Milo Industries. His analysis, based on informal chats, attending meetings and other routine activities, revealed that each organization had two organizational charts - the formal and the informal. In actual practice the informal relations were utilized rather than the formal role relationships.

Another useful way to side track human elements is the use of secondary source of data, archive, files, and other records. In addition there are non-directive or projection technique like Rorschach Test and Thematic Appreciation Test. These could be classified as approximations to knowledge because the source of data is not the human respondent (except in projective tests) but their traces. Webb, Campbell, Schwartz and Sechrest (1970) have called these and other such techniques as "unobtrusive measures" or "non-reactive" measures simply because they do not involve an active participation by the respondents. Let us look at a few examples from pages 2-3 of their book:

"The degree of fear induced by ghost story talking session can be measured by noting the shrinking diameter of a circle of seated children".

The child's interest in Christmas was demonstrated by distortions in the size of Santa Claus drawings .

The floor tiles around the hatching-chick exhibit at Chicago's Museum of Science and Industry must be replaced every six weeks. Tiles in other parts of the museum need not be replaced for years. The selective erosion of tiles indexed by the replacement rate is a measure of the relative popularity of exhibits".

7. Some other attempts have been made to improve the measurement techniques to control human elements. If research purpose and design are such that direct contact with respondents is a must, what should be the coping strategies in such circumstances? Rosenthal and Rasnow (1969) have described a variety of measures.

1. Catch scale: A number of sub-scales are introduced to catch response set. The idea is that if a respondent who answers too many questions in a way that is inconsistent, exceedingly rare, or too good to be true, he should be rejected.
2. The response count: It involves counting responses in a given category (yes, no, agree, reject, etc.). If the respondent exceeds a certain arbitrarily set limit, his responses are rejected.
3. Discrepancy scores: It involves partitioning the items that measure a given variable, say by odd or even and looking at the discrepancy of scores. High discrepancy reflects greater contamination by response bias.

4. Use of control group: Refers to situations where respondents themselves serve as a control group. So they are treated once as a control and second time as research group to see the consistency of responses over the two measures. Low consistency respondents are rejected.
5. Ipsatizing procedure: Where response choices are limited by researcher. Common form of this are forced choice and forced distribution techniques.
6. Counter-balancing response categories: Wording statements in such a way that both yes and no responses may indicate the same traits. Too many responses in the same category indicate contamination by response bias.

These coping strategies reflect the concern of researchers and have to a large extent, been motivated by our assumption that good research could be done to the extent respondents are unaware of the real purpose of research.

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ABSTRACT

It has been argued that respondents behaviour in research settings is not only determined by research manipulation but a variety of uncontrolled human factors. Literature that suggests the existence of such factors is reviewed. In addition, the reasons of why this happens the way it does and what could be done to control and/or eliminate them have been discussed.

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