# A COMPARISON OF TWO DATA COLLECTING METHODS: INTERVIEWS AND QUESTIONNAIRES

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ÖZET: Bu makalede veri toplama aracı olarak sosyal bilimler ve eğitimde yapılan araştırmalarda sıkça kullanılan görüşme ve anket teknikleri incelenmiştir. Önce her iki tekniğin tanımları ve türleri üzerinde durulmuştur. Daha sonra görüşmeler ve anketler çeşitli yönlerden karşılaştırılmıştır. Bu karşılaştırma maliyet, süre, planlama, örneklem büyüklüğü ve örnekleme, istenilen bilgiye ulaşma, yanlılık, gizlilik, yanıtlama oranı, geçerlik, güvenirlik ve verilerin analizi ölçütlerine göre yapılmıştır. Son olarak, her iki tekniğin avantajları ve dezavantajları bir tabloda özetlenmiştir.

ANAHTAR SÖZCÜKLER: Görüşmeler, Anketler, Araştırma Yöntemleri.

ABSTRACT: In this article, as data collecting tools interviews and questionnaires used in social science and educational researches were examined. Firstly, the definitions and types of both techniques were discussed. Then intreviews and questionnaires were compared in terms of various aspects. These comparasions were made regarding cost, time, schedule, sample size and sampling, access to information, bias, anonimity and confidentialty, response rate, validity, reliability and data analysis. Finally, the advantages and disadvantages of both techniques were summarised in a table.

**KEY WORDS**: Interviews, Questionnaires, Research Methods.

# 1. INTRODUCTION

There are different types of interviews and questionnaires. In this article, interviews will be investigated in terms of being structured or unstructured. Also questionnaires will be investigated regarding its types which are 'self-administered' and 'mailed' questionnaires.

# 1.1. Definitions of Interviews and Questionnaires

Interview is a kind of conversation and as Hull (1) tells us "...but of particular kind, where

actors talk to a specific and conscious purpose." Channel and Kahn (1968) defined interview as "a two-person conversation initiated by the interviewer for the specific purpose of obtaining research-relevant information, and focused by him on content specified by research objectives of systematic description, prediction, or explanation" [cited in (2): p.271].

At its simplest form, a questionnaire is no more than a list of questions to which answers are being sought. However, to assure that misunderstandings or ambiguities in the questioning are reduced to a minimum, and to enable data to be compared across the members of a sample, a number of different ways of presenting questions have been developed (3).

When constructing questions for interviews and questionnaires, Foddy (4) emphasizes that the researcher must clearly define the topic of each question, determine the applicability of the question to each respondent, and specify the perspective for responding to the question.

# 1.2. Types of Interviews

When we look at the structured interviews, they can be the structured or unstructured.

The structured interviews are that a list of questions is asked the answers recorded on a standardized schedule. The content and procedures are organized in advance for questioning. The sequence and wording of the questions are determined by means of a schedule and the interviewer is not allowed to make any changes. Fontana and Frey (5) emphasize that "There is generally little room for variation in response except where an infrequent open-ended question may be used". Also they add "There is very

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little flexibility in the way questions are asked or answered".

The unstructured interviews, contrary the structured interview is an open situation and so having greater flexibility and freedom. Although research questions determine the questions to be asked, their content, sequence and wording are entirely left to the interviewer. However, this does not mean that the unstructured interview is a more casual thing, and for in its own way it must be carefully planned (2).

# 1.3. Types of Questionnaires

There are two different types of questionnaires, namely the *mail*, and *self administered* questionnaires.

As its name implies that mail questionnaires prepared questionnaire which are mailed to the respondents whose names and addresses obtained regarding sample with cover letter explaining the purpose of the survey emphasising how valuable the respondent's completion of the questionnaire. A self addressed and stamped envelope for returns can also be included.

The self-administered questionnaire is presented to the respondents by the researcher or by someone in an official position such as schools' headteachers. Holroyd and Harlen (9: p. 326) say that "Headteachers distributed the questionnaires to teachers of pupils..." The purpose of the questionnaire is explained, and then the respondents is left alone to complete the questionnaire, which may be sent or collected later. This method assures a high response rate, accurate sampling, and minimum of bias, providing necessary explanations and giving the benefit of personal contact (6).

# 2. THE COMPARISON OF INTER-VIEWS AND QUESTIONNAIRES

#### 2.1. Cost

Interviews cost more money than questionnaires. Moser and Kalton (10: p.256) tell us

"Without doubt, the mail questionnaire is generally cheaper than other methods" and they conquoting from Selltiz "Questionnaires can be sent through the mail; interviewers cannot." There are traveling and existence expenses to be occurred, as well as payments to the interviews and interviewers. Interviewers have to be organized and trained which requires a field-work organization when interviewers are distributed all over the country. Granström (11: p.353) has found this factor as a difficulty in his research and he indicates that "About twice as many teacher applied, for which reason selection was based on practical factors, such as timetables and travelling expenses." As a result, he had to reduce the sample size.

In some cases, interviewers leave or quit the survey. In this case the replacement of them presents some difficulties and cost some extra money. The interviewing of particular sample, such as following of the graduates of a school after five or ten years of graduation may be very expensive.

The main advantage of the mailed questionnaire is its cheapness. Since it does not require a trained staff or the field workers, the payments to them and their travel expenses do not exist. Furthermore, all it requires the cost of planning and piloting, printing expenses, sampling, and mailing, providing stamped, self-addressed envelops for the returns. However, there is a danger of low response rate in mail questionnaire that it can make the survey expensive. "...the response to a mail survey may be so low that the cost per completed questionnaire is higher than with an interview sample." (10: p.257). Another advantage of the questionnaires is that their data processing and analysis is cheaper than that of interviews.

#### 2.2. Time

The main disadvantage of interview is that it requires a great amount of time to collect information. Because it takes several interviews with different people before a similar, a set of questions has been asked to individual respondent in the survey. The actual interview session changes in length and time. Any interview under half an hour is unlikely to valuable; and an interview taking more than an hour may be making unreasonable demands on busy interviews. So it can effect of reducing the number of persons to participate, which may in turn lead biases in the sample.

Sharp (12: p.10) admits that "Staff feel it is important to allow time for students to feel at ease during the interview, so interviews are timed to last at least 30 minutes." Also she quoted from Howard Jones "Students who have been for interview at other colleges are often surprised at being given this amount of time, but we feel that it is important to give staff and students time to find out about each other". Additionally, Mouton et.al (13) say that "Interviews took 45 minutes to 1 hour and were completely voluntary." It seems that choosing the voluntary samples is good solution for time-consuming in interview.

All interviews require careful preparation that means time and effort. "Arrangements to visit; securing necessary permission; confirming arrangements; rescheduling appointments to cover absences and crises; these need more time. Notes to be writing up; tapes if used require whole or partial transcription (one hour of tape time requires ten hours to transcribe fully)" (7: p. 230). Also, the analyzing and transcribing requires time.

Regarding the time for the completion a questionnaire, Huse'n and Postlethwaite (14) suggest that for adults 30 minutes is about the upper limit that can be expected in the way of answering time when questionnaires are administered in group setting. "When questionnaires are mailed to respondents, about 15 minutes appears to be the limit to the respondent time. Questionnaires administered to students may need to be shorter and require less time." (14: p.4883). Therefore, the full questionnaire should

requires less than 30 minutes to complete and, preferably, less than 15 or 20 minutes. "Questionnaires were completed in about 20 minutes and no pupils refused to take part." (15: p. 309). A long and time-consuming questionnaire, as pointed out by Huse'n and Postlethwaite (14: p.4883) "... may cause a respondent to cease to cooperate after a period of answering questions. At best, one will receive an incomplete questionnaire and, at worst, the questionnaire will not be returned." Therefore, these factors influence the response rate, reliability and validity of the research.

Also, self-completed questionnaires, which respondents fill in for themselves, are very efficient in terms of researchers time and effort. Copies of the questionnaire could be distributed to all pupils in a school, or to the hundreds of employees in firm, can be completed by them and returned to the researcher about the same amount of time that it takes to complete a single interview.

#### 2.3. Schedule

Interviews and questionnaires involve questions to ask to the respondents. There are mainly two types of questions, which are close-ended and open-ended. The close-ended type where the respondents choose from two or more alternative. The most frequently used is the dichotomous question, which offers to a respondent only two alternatives: 'yes-no' or 'agree-disagree'. According to Kerlinger the chief advantage of this type question is that it has greater uniformity of measurement and so has higher reliability; making respondents answer in a manner fitting the response category; and being more easily coded. Their superficiality, the possibility of irritating respondents who find none of the alternatives suitable, and the possibility of forcing responses that are inappropriate can be found their disadvantages [cited in (2)].

The open-ended type which supply a frame of reference for the respondents' answers but put a minimum control on the answers and their expression. In an interview, the open-ended questions obtain several advantages: they are flexible; they allow the interviewer to probe so that he/she may go into more depth if he/she decides, or to clear up any misunderstandings; they also enable the interviewer to test the limits of the respondents knowledge; they encourage co-operation and help to establish rapport; and finally they allow the interviewer to make a truer assessment of the what the respondent believes or thinks.

Sometimes researchers use mixed questions type in their questionnaires or interviews (16), (9), (13). Clement explains the reason of this as "The last section of each questionnaire was left open so that Headteachers and assistant teachers could add their personal comments in response to the Statutory Orders for art." (16: p.5).

# 2.4. Sample Size and Sampling

Sampling is very strict regarding the number of observations (interviewees and respondents of questionnaires) needed from a given population to make reliable estimates on given characteristics of this population. Determining the sample size is very important problem and it depends on many factors. In order to determine the sample size the researcher must know the variance of the characteristics to be examined in the population. Psacharopoulos (19) recommends that 5 to 10% sample sizes are to be adequate for most surveys. Here, the important thing is that it is not the size of the sample but more important is that it should be representative and random.

Another advantages of mailed questionnaires is that a much larger sample can be covered at modest increase in cost and that the sampling can be more accurate and representative of its population. Since a questionnaire can be addressed to a particular respondent, whereas the interviewer has to find the right individual at home in a particular household or in a work place (20).

In an interview, regarding its type the sam-

ple size must be reduced. As an example, Schenk (21) has reduced her sample group to get depth information. "Structured interviews with 50 experienced designers were conducted and supplemented by shorter, focused interviews with 20 junior designers." (21:p.74). Depth information means time and effort. Another example, Tizard and Hughes had to reduce their sample size because of the process of recording and transcribing of children conversations was much more time-consuming than they had anticipated [cited in 22].

# 2.5. Access to Information

Whatever data collecting technique is used whether questionnaire or interview technique, it needs some information supplied by respondents. Types of information required depends on the purposes of the interviews and questionnaires. The problem which faces the researcher is to find the right respondent. Once the researcher finds the right respondent/s, he/she can ask the questions orally or written and then gets the answers. The respondent should have the information or data that the researcher is seeking. In this case, after reaching the interviewee, it seems easy to access to information interviews. However, this requires asking the right questions.

There are different types of questions used in interviews. One type of question is known as 'filter' questions. (20: p.38) explains that "it starts off with a broad question and then progressively narrows down the scope off the questions until it comes to some very specific point." He continues that, a filter question is used to exclude a respondent from a particular question sequence if those questions are irrelevant to him. On the other hand, many open-ended questions will produce a good deal of information that is not relevant to the purpose of survey.

Interviewing requires that all information in a respondent's answer is explicit. As Dyer (3: p.57) points out that "the aim of an interview is to draw from an interviewee a range of informa-

tion which includes implicit knowledge. One of the aims of interview may be to bring as much as possible of this implicit knowledge out into the open, and to make it explicit."

Apart from that, interviewer is able to answer questions concerning the purpose of the interview, and the interviewee may be put at in a way that is possible with questionnaire. This may result accessing to more reliable information. On the other hand, in a questionnaire there is no way of determining how the respondent filled the questionnaire. It is also possible that the questionnaire may be have been filled by individual other than the real respondent.

#### 2.6. Bias

Questionnaires and interviews are prone to distortion of data because of the presence of bias. One of the disadvantages of close-ended questionnaire is the source of bias. Since the researcher force respondents to choose one or some predetermined alternatives and to make them consider on alternatives that maybe respondents never think about them.

It seems that interviews are prone more bias than questionnaires because of the interviewer factor. As Selltiz *et.al* (1962) point out, "interviewers are human beings and not machines" [cited in (18): p.95)]. Bias can be present in wording questions and in the manner that they are expressed. As Oppenheim (20: p.31-32) points out that the interview has several sources of biases.

"The interviewer may give an inkling of her opinion or expectations by her tone of voice, the way she reads questions, or simply by her appearance, dress and accent. She may unwittingly influence the respondent by pausing expectantly at certain points, by probing with leading questions, and by agreeing with the respondent in an effort to maintain rapport. Her own expectations and her selective understandings and recording of the answers may produce bias. An interviewer may misunderstand of

fail to obey instructions; she may show surprise or boredom in tone or emphasis or in other ways unconsciously communicate her own attitudes and her expectations of the respondent's attitudes. Questions concerned with 'delicate' issues raise special problems."

The main sources of bias are the characteristics of the interviewer and the characteristics of the respondents, and the content of the questions. Studies have also shown that race, religion, age and social class can be potential sources of bias. There are some ways of reducing bias, which are the careful formulation of questions so that the meaning is very clear; thorough training procedures so that an interviewer is more aware of possible problems; probability sampling of respondents; and sometimes by matching interviewer characteristics with those of the sample being interviewed (2).

Some of the problems mentioned above can be extended by suitable selection and training of interviewers, by careful preparation of the interview schedule control, and by supervision of the interview process. However, some other biases may exist and they can influence the results of the interview to an unknown degree.

#### 2.7. Anonymity

Anonymity is one of the features sought in questionnaires. As Psacharopoulos (19: p.162) indicates that "it is more often that questionnaires start by asking the name of the respondents and his address. On the contrary, anonymous questionnaires generate a higher and better quality response, especially on the income and second job question.". This is very important in case of asking questions about one's private life.

Data obtained from the interviews and questionnaires should always be regarded as confidential as possible, in the sense that no responses or results should ever be published which could identify certain respondents. To get this

result respondents should be given assurance to this effect and a guarantee of anonymity. For example, Boulton (23: p.440) to facilitate honest answers and to comply with ethical standards from a sample of 8-10 year-olds, informed the children that "...their responses would not be communicated to anybody from their school." and he continues by "At the outset of the interview, it was pointed out that it was not a test, as there were no right or wrong answers, and that it was acceptable for the children to say whatever they wanted in response to the questions."

This is very important aspect of the interviews and questionnaires. The anonymous mail questionnaires give a greater portion of socially unacceptable responses than face-to-face interviews. If possible the names of the respondents should not be asked to write or requested to sign the questionnaires.

#### 2.8. Confidentiality

Confidentiality is also sensitive factor both in an interview and questionnaires. Few people can be openhearted in front of the audience. To get confidentiality quite and suitable places, for example not child's own classroom, should be obtained for interviewing (23).

The qualitative data obtained in the interviews is highly accessible. Since it consists of verbal descriptions, which can be read by anyone. Therefore, it is very essential to take great care to maintain the confidentiality of the written records. This requires that all records should be such that there is no possibility that source of the information can ever be identified. This can be achieved by removing the names of the respondents from all documents. If it should be necessary to have a record of a respondent's personal knowledge, these should be kept entirely separate from the data, and there should be no way that a casual or curious reader could connect them. This rule should be regarded as absolute even when respondents give permission for their names to be used. As Dyer (3: p.63) points out that "Beyond this minimum, every researcher should satisfy himself that all personal information, such as place of residence, occupation, and the like, which could lead to an identification, and which is not absolutely essential to the topic of inquiry, has either been removed or effectively disguised." For example, Holroyd and Harlen (9: p.326) have assured the confidentiality of the questionnaires to the sample group. "Teachers were fully informed of the aims of the research and the procedure that was adopted for the return of completed questionnaires ensured confidentiality."

During the interview respondents tells the interviewer things that they never intended to tell. Interviews can become confessions, particularly under the promise of confidentiality. Therefore, the power of interviewing can put the interviewees at risk. As Patton (8: p.355) emphasizes that "The interviewer needs to have an ethical framework for dealing with such issues."

# 2.9. Response Rate

One of the other disadvantages of mailed questionnaires is the fact that, they usually produce lower response rate (19). "Depending on the subject of the questionnaire, for the uninterested groups, figures of 40 per cent to 60 per cent are typical; even in surveys of interested groups, 80 per cent is seldom" (20: p.34).

A study was carried out by Krysan and et al. (24) to ascertain the response rates and response content in mail versus face-to-face surveys. They concluded that, the mail survey obtained a considerably lower response rate than the face-to-face interview.

Dillman and et. al (25) have conducted an experimental study to determine the relative effects of questionnaire length, respondent-friendly questionnaire design, and a difficult question on response rates. They have found that "the shortening questionnaire and respondent-friendly questionnaire design improve response rate, whereas asking a potentially questions and/or objectionable questions,..., lowers

response." (25: p.289). Interestingly, Scott (26) has found no significant evidence to this view. Also he supported his findings with two other experiments (Brown,1960 and Sletto,1940). Sletto sent questionnaires to three different group of 100 graduate students. Questionnaires were 10 pages, 25 pages and 35 pages. Surprisingly, the response rates were respectively 68 per cent, 60 per cent, and 63 per cent. Hence, there was no clear evidence of a clear decline in response regarding the questionnaire length [cited in (26): p. 168)]. Unfortunately, there was not recent research mentioning this issue available.

Scott (26) has found in his research that the official sponsorship is one of the main factors affecting the high response rate. The similar evidence has found in Holroyd and Harlen's research in 1996 (9). They explain that "With the valuable cooperation of the directors of AAP science project, questionnaires were mailed to the 119 schools...Replies were received 99 schools, that is, 83 per cent of the AAP sample. It is not possible to give a precise figure for the return from the teacher population targeted since the exact number of possible respondents in each school is not known. Thanks to the strategy of cooperation with AAP these r<sup>1</sup>esponse rates are unusually high for a questionnaire survey." (9: p.326).

The refusal rate for personal interviews is typically very much smaller than non-response rate for postal questionnaires. Although a good planning of the questionnaires can increase the response rate for the questionnaires, this remains a major problem. The basic point is that the researcher has little or no knowledge about the views and characteristics of those who do not response, which can seriously reduce any claims to generalizability (7: p.237).

Another aspect of the response rate is the relationship between respondent age and response. A recent study was carried out by Kaldenberg, Koenig, and Becker (27) to examine the relationship between age and response

rates to mail surveys (mail questionnaires). They worked on a random sample of 1, 000 retired public employees in a large western city. A fourpage questionnaire booklet of Dillman (1978) design was mailed to the sample. They concluded that "... age, within elderly population, does have a significant impact on response rate to a mail questionnaire.... Mail surveys can be administered successfully to elderly populations and a reasonable overall response rate may be obtained-but only if appropriate precautions are taken." (27: p.75-76).

#### 2.10. Validity

"High validity demands high reliability, but the reverse is not true. In practice, high reliability is found to give comfort to research workers even where validity is clearly the crucial issue..." (26: p.179).

Although there are different type of validity, inferences about the validity of interviews are made on the basis of face validity, that is, whether the questions asked look as if they are measuring what they claim to measure. One way of validating interview measures is to compare the interview measure with another measure that has already been shown to be valid. If two measures agree, it can be concluded that the validity of the interview is comparable with the reliable validity of the other measure.

Ross bases an interview's validity on the oral proficiency of an interviewee. "The validity of the interview as a legitimate interactional process depends crucially on the interface between the way language is used for the purpose of communication in the interview and how this use represents the extent and quality of linguistic accommodation in native-non-native discourse." (28: p.175).

Perhaps the most practical way of increasing the validity of the interviews is to minimize the amount of bias as much as possible.

<sup>1</sup> The Scottish Office Education Department funds the Assesment of Achievement Program (AAP)

The validity of a questionnaire concerns the extent to which it is actually capable of providing information, which it claims to provide. In another words, data obtained by a questionnaire survey are valid if they measure what they are supposed to measure. Typical examples of non-validity refer to high sampling error, the age and productivity questions (19).

The important point is that, general questions about the validity of a questionnaire are not really meaningful when they are considered without purpose of the questionnaire. The researcher needs to know which types of validity is being applied as a criterion, and what purpose the data obtained from the questionnaire are intended to serve.

# 2.11. Reliability

One of the characteristics sought in any measuring device is the reliability. The reliability of a questionnaire is concerned with the extent to which procedure is capable of returning an accurate result despite the presence of some factors, which may influence the outcome in one direction or another. A reliable questionnaire would be one, which is capable of giving the same result when given to the same individuals on different time. In another words, a reliable questionnaire or even any measuring tool should be free from the measurement errors.

Reliability of a questionnaire can be accomplished in two ways. One approach is to ask the same question that was presented early in the questionnaire in the same or slightly different form in the questionnaire. This approach gives a modest consistency check but does not take into account variations in time. The second approach is to re-administer a questionnaire to the same group of respondents several days later and compare the results that were obtained. Munck (1991) made a study of 9-year olds in Sweden. Munck's results present a striking example of the amount of unreliability inherent in questionnaires. For the three items used in the questionnaire, she found the "kappa correlation" 0.98, 0.77, and 0.41. [cited in (14) p. 4886)]. Huse'n and Postlethwaite concluded that "Correlations of other socioeconomic variables were equally low, suggesting that there is a considerable amount of error in response to questionnaire items. It is important that research workers or plan to use questionnaires investigate for measurement error so that the results obtained from questionnaires can be used with confidence or correction for unreliability made in analysis."

In order to assess the reliability, a small number of children were re-interviewed by Boulton (23: p.441) between 3 and 5 days after the initial interview. "For each individual child, a high Kappa value was obtained, and the mean across all 15 children was 0.89. These results support the view that children's nominations..."

Moreover, oral proficiency is powerful factor for reliability and validity of an interview. Because oral proficiency has been on the reliability of the ratings, perhaps at the expense of the validity of the interview format (28).

# 2.12. Data Analysis

When data are collected through either interviews or questionnaires, the task of the analysis begins. The analysis of quantitative data is relatively easy and can be accomplished through the use of descriptive and inferential statistics. Qualitative data, obtained from open-ended questions is rather more difficult to code and analyze, since it is difficult to categorize the responses.

One of the main problems of interpreting qualitative data is that it rapidly seems to become very large. Researchers indicate the difficulty of transcribing of an interview. These are examples, "Half a dozen interviews can produce hours of transcription work and document collection rapidly fill several files" (29: p.251). "One hour tape recording means seven or ten hour transcribing" (30).

Data obtained from interviews are difficult to bring them together and analyze. If the interviews are systematized and standardized such as structured interviews, this facilitates coding data and analysis of data through computers. However, this provides less flexibility and less sensitive to individual differences.

If the questionnaire has been well designed and constructed, the time needed to code and analyze responses can be short, particularly if the computer coding or analysis is available. The data are necessarily superficial. There little or no check on the honesty or seriousness of responses. In the questionnaires consist of

closed end questions, responses have to limited into predetermined boxes which may or may not be appropriate.

The relative advantages and disadvantages of interviews and questionnaires are summarized in Table 1. It seems that one advantage of one techniques is the disadvantage of the other technique. It cannot be claimed that one technique is better than the other.

Table 1. A Summary of Advantages and Disadvantages of Interviews and Questionnaires

Criteria	Interviews		Questionnaires	
	Advantages	Disadvantages	Advantages	Disadvantages
Access to information	V			X
Anonymity		×	V	
Application Skill		×	~	
Bias		×	~	
Confidentiality		×	~	
Cost		×	~	
Data Analysis		Х	~	
Flexibility	<b>V</b>			X
Reliability	~			×
Response Rate	<b>V</b>			X
Sample size and Sampling		×	~	
Time		×	V	
Validity	~			×

Meaning of symbols: ✔ Advantage

X Disadvantage

#### 3. CONCLUSION

This article has attempted to describe what interviews and questionnaires are; how and where they are used; what their types and major characteristics are; and finally what advantages and disadvantages they have.

Interview is a controlled conversation that the interviewer obtains data required for the survey from the respondent by means of asking serious questions verbally. During the course of interview nonverbal messages are also present and need to be interpreted. Complex cognitive, affective and social feelings are involved in interviews.

A questionnaire is a self-report instrument used for collecting information needed for the

survey. It consists of a number of questions or items on paper that respondents reads and gives answers in written form.

Both techniques have certain advantages and disadvantages. It seems that an advantage of questionnaire is the disadvantage of interview. Furthermore, a disadvantage of questionnaire is the advantage of interview. It cannot be said that one technique is superior to other. Which technique should be used depends on the purposes of the research and the variables involved. In some cases combination of both two techniques might be the best way to provide a powerful research strategy instead of trusting on only one technique. If researcher wants to know not only the respondents' think but also how they feel and think, he/she should use interview method.

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