Identifying and Controlling for Sources of Bias & Error in Focus Group Assessment Research

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Working Paper: Not for Distribution
June 15, 2000

Introduction

Focus group assessment, as with any other form of scientific research, is concerned with the control of error or bias. Error or bias introduces non-controlled forms of variation which may skew results. While in a perfect world, all error could be eliminated, in the real world of focus group assessments that will never occur. There are too many sources of variation, and too few ways to eliminate it. What we can do is to identify those sources and seek to minimize their impact both through design and analysis. This paper provides a brief overview of the forms of bias and then presents methods for controlling and/or minimizing bias.

Sources of Bias or Error

- **Selection Error.** Selection error occurs when people are selected for the focus groups on some variable other than the ones identified beforehand as variables to test. When that occurs, we cannot determine if the results were due to pre-identified variables or due to the “hidden” or “unknown” variable that influenced selection.

- **Method Error.** Method error occurs when there is a significant variation in focus group method. If focus groups are conducted one way one time, and another way another time, then the question may be legitimately asked, “are the differences between groups due to the actual thoughts of the group, or due to the different method used to obtain the data. Method error confounds results by making it unclear what impact differing methods had on the results.

- **Moderator Personality/Style Bias.** Moderator’s obviously differ in style and personality. When these differ significantly, they introduce a confounding variable into the assessment.

- **Expectancy Bias.** Participants may have varying expectations of the purpose or task of the focus group. This can lead to response variance due to expectancy gaps that is not truly reflective of the participant’s view or opinion of the test materials. The focus group designer must also be careful not to create expectations that inadvertently shape responses.

- **Item order effect.** If the focus group is testing reactions to different items, then the order of item presentation can influence response if not controlled for in some way.
• **Respondent Order Effect.** In response bias, error is introduced by respondents self-selecting a response “pecking order” in which certain participants “go first” and others “go last”

• **Dominance bias.** In a focus group setting an extremely verbal or dominant personality can influence group responses if not controlled for in some way.

• **Shyness bias.** The opposite of dominance bias, shyness bias refers to the behavior of some persons to be very quiet in group settings and to not initiate participation in discussions.

• **Acquaintance bias.** Is it possible that individuals who know each other may influence each other’s responses. If this occur, acquaintance bias would occur.

• **Stranger bias.** While acquaintance bias can occur, in actuality stranger bias can also occur. While not as obvious, this may occur in the form of some participants being reluctant to speak in the presence of strangers or some participants making stronger statements than they actually hold simply because there is no one in the group who “knows” them.

• **Idiosyncratic error.** This source of error is a result of transient individual participant experiences which may color their responses. Someone having a “bad” day for example may give exaggerated responses simply as a mechanism for venting frustration or anger at a totally separate event.

**Methods of Control**

*Selection Error.*

• Selection error is best controlled by random selection of participants. Random selection prevents the inadvertent introduction of error through a skewed selection.

*Method Error*

To minimize method bias a number of options are available. In order of descending strength they are:

• Develop structured and detailed protocols in which all moderators are trained. This prevents significant variation in method.
• Have trained moderators, all of whom share a common training background.
• Have a general protocol which covers desired results and key points.
Moderator/Personality Style Bias

This form of bias will never be eliminated. However, the mechanisms which can be used to minimize this form of bias include:

- Where feasible, use the same moderator for all focus groups. This solution at least ensures that the moderator impact is approximately the same for all groups.
- Where multiple moderators are used, provide a detailed protocol and structure so that individual personality differences do not result in different methods.
- Attempt a post-facto analysis to determine if there seem to be any patterns of response that are particularly associated with a particular moderator.

Expectancy Bias.

Expectancy bias can be controlled or minimized through the following steps:

- Standardization of any advertising or recruitment material;
- Use of a standard letter of acknowledgement of participation which creates a common expectation among participants
- Use of a standard opening statement by the moderator which clarifies process, role or item [as appropriate – if you are testing for initial reactions you do not want to create expectations or shape responses]

Item order effect.

Item order bias can be controlled by systematically varying the presentation order so that no item is always presented at a certain point.

Respondent Order Effect

Response bias can be systematically controlled by systematically varying the order in which participants speak in a structured interview. In a non-structured interview, it is very difficult to control for response bias. A post-facto analysis can be conducted to determine if the participants tended to respond in a particular order. If they did not, one can argue that response bias did not occur. If they did respond in a particular order, the researcher has to acknowledge that a confounding variable has been introduced.

Dominance bias.

Dominance bias is controlled via a structured interview process in which each respondent is allocated a fixed amount of time to respond in a clear sequence. This controls both time of speech [one form of dominance] and speaking sequence [another form of dominance is speaking frequently, out of turn, or interrupting another speaker]
Shyness bias.

The opposite of dominance bias is shyness bias where a member does not speak in any regular or systematic manner. Again, the structured interview process minimizes shyness bias by providing each participant a time slot in which to speak so that they do not have to compete for the floor or attempt to gain the attention of the moderator.

Acquaintance bias.

Acquaintance bias can be controlled through a variety of tools.

- One, given sufficient time and participant pool, a screening criteria can be that the participant know no one else in the group. While theoretically sound, this is difficult to achieve in practice either because it is difficult to monitor or because in smaller or rural communities it may be a practical impossibility.
- Two, use of a structured interview protocol minimizes the impact of acquaintance by forcing each individual to respond to the moderator and not to one another [unless that is part of the research design].
- Third, post-facto analysis can determine the impact of acquaintance if there is a concern that acquaintance bias may have occurred. The first step in post-facto analysis is to remove either the acquainted individuals or the entire focus group from the quantitative analysis. If the data patterns remain the same after their removal, then acquaintance had no impact on overall results. If the quantitative patterns do vary, then the next step would be to remove either the acquainted persons from the analysis or the entire focus group. If upon removal, the same general data patterns remain as were found when they were included, then one can safely conclude that acquaintance bias did not impact the results in any significant manner. If a different data pattern is found, then the data can be segregated and separate analyses conducted.

Stranger bias.

Control of stranger bias is more difficult because it is more difficult to detect. Initial detection can be done by either the moderator or the transcript reviewer but it is much easier for the moderator to see it in action. Stranger bias is indicated whenever one person consistently responds in the same form to another, i.e. they always agree, they always disagree, etc.

Idiosyncratic bias.

This cannot be controlled for ahead of time. It can be minimized by use of structured interview protocols which do not allow the person to “get off track” and into a discussion of their particular issue.
Focus Group Methodology: The Structured Interview Process

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Focus group moderators utilize a variety of specific methods to obtain their data. Each method has its own strengths and weaknesses and is appropriate in certain settings, inappropriate in others. This paper introduces one method, the Structured Interview Process. The method is described and its strengths and weaknesses listed.

Description of the Method

The Structured Interview Process conducts a focus group using highly defined protocols. These protocols include:

1. Delineation of framework setting via standardized introductory comments. This creates a common set of expectations for participants, thereby reducing expectancy error.
2. Specification of questions, including specific phaseology. This ensures each participant is asked the same question. This reduces method error, moderator bias, acquaintanceship bias and stranger bias.
3. Delineation of item presentation sequence. This ensures that both order effect and moderator bias is minimized.
4. Delineation of participant response sequence. This ensures respondent and moderator bias is minimized as well as dominance bias.
5. Possible use of quantitative questions. This promotes data triangulation and serves as a test of internal reliability of the data. It also serves to minimize moderator bias.
6. Delineation of time frames for item and respondent. This minimizes dominance bias as well as moderator bias.

Advantages

The advantages of the Structured Interview Process include:

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<th>Advantage:</th>
<th>Discussion:</th>
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<td>Strong control of various forms of bias</td>
<td>Structured interviews control or minimize expectancy error, method error, moderator bias, acquaintanceship bias, stranger bias, order effect, respondent order effect.</td>
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<td>Data Triangulation</td>
<td>The strongest forms of data triangulation involves three different data types. Use of structured interviews facilitates quantitative data collection and systematic moderator data which adds two different data types to qualitative participant data.</td>
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Ease of multiple site, multiple group administration

This process is easier to administer across multiple sites or groups. It ensures moderators are following similar steps.

Data Analysis is facilitated.

A structured interview facilitates data analysis by pre-designing the data set.

Disadvantages

The disadvantages of the Structured Interview Process include:

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<th>Disadvantage:</th>
<th>Discussion</th>
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<td>Potential creativity limitations</td>
<td>If the purpose of the focus group is to facilitate group creative thinking on a topic, and then later draw ideas from that discussion, a structured interview will probably inhibit the needed free flow of ideas. If the goal is creativity or random ideas, other group processes such as brainstorming or various thinking exercises are more appropriate.</td>
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<td>Participant Reaction</td>
<td>Some participants may not like structured formats. Those persons who want to express themselves as “they feel like it” will probably feel constrained. If the group is pre-identified as consisting of those types of persons, a more semi-structured interview protocol may be appropriate.</td>
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<td>Off-target questions can be generated and asked if pre-design work is not done properly.</td>
<td>The Structured Interview Process requires careful pre-design, particularly in its questions. If the wrong questions are asked, the desired data will not be generated.</td>
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Alternatives to the Structured Interview Process

There are a variety of alternatives to the Structured Interview Process. These include:

- Semi-Structured Interviews. Semi-structured interviews provide an overall framework but allow the moderator greater flexibility to respond to group dynamics.
• Creative Thinking Groups. The purpose of these groups is to generate creative thinking on a topic. They use a variety of techniques such as brainstorming, poster notes, visualization, etc.

• Electronic. Electronic focus groups use interactive software technology to either generate ideas or evaluate materials. They advantage is they can eliminate dominance, acquaintanceship or stranger bias.

• Free form Interviews. In this form the moderator follows the flow of the group as they respond to items.

• Quantitative based. These forms are highly similar to Structured Interviews in that respondents complete and then elaborate upon their responses to a series of quantitative items.