

The Daily Life Study: How Survey Methods Change Self-Reports

Michelle Eisenkraft, B.A.¹

Abstract ~ Two studies were conducted. The first study examined the impact of survey methods on self-reports. Participants were put into Retrospection or No Retrospection conditions, within the Diary, Panel, or Cross-Section conditions. Participants within each condition completed diaries with differing frequencies. Within the diary conditions, participants were put into a "Test" condition and told that the researchers were studying students' daily lives leading up to midterms, or a "Neutral" condition and told that the investigators were studying students' daily lives. Differences between conditions were measured based on "negative emotions" (depression and anxiety). Participants completing diaries most frequently reported lower levels of negative emotion than students completing diaries less frequently, and participants

1: Department of Psychology, Graduate Faculty, New School University, New York, USA

This study was conducted at New York University under supervision of Dr. Patrick Shrout, Dr. Niall Bolger, and Marci Gleason

Address correspondence to Michelle Eisenkraft, eisem502@newschool.edu

in the Test condition reported higher levels of negative emotion compared to participants in the Neutral condition. The second study examined participants' accuracy in retrospective weekly self-reports, focusing on participants in the Retrospective Diary condition and comparing daily self-reports of time spent in activities to weekly estimates of average time spent in the same activities. There were significant differences in participants' average hours spent in class, and marginally significant differences in hours spent sleeping and studying. Results from these studies can help social scientists gain understanding of how participants complete self-reports, and have implications for research that requires self-reports.

Introduction

Scientists commonly use self-report measures to study human behavior. However, problems have been found with this technique because answers are easily manipulated. Problems arise because of all that is involved before the participant can answer; the participant must interpret what is being asked, find an answer and convert it to one that fits with the survey choices, and possibly edit the answer to make it socially desirable (Schwarz & Oyserman, 2001).

Studies suggest that participants want to appear desirable both in general (i.e. competent) and to the researcher (by giving the answer they think the researcher wants; Schwarz, 1999). Proposed explanations are that the participant wants to cooperate and give the answer they think is wanted, or that seeing different titles primes participants to answer in specific ways.

The first study's purpose was to examine what causes self-report measures to vary between participants, and whether diary data was influenced by frequency of completing diaries and what the participant thought the study was about. Based on research by

Gleason (2001), we predicted that in this study participants completing a daily diary would report less "negative emotion" than participants in panel or cross-section conditions (who took a diary twice or once, respectively). Additionally, participants who thought we were studying students' daily lives leading up to midterms should report more negative emotion than participants who thought we were studying students' daily lives (Schwarz 1999).

The second study's aim was to examine participants' accuracy in retrospective self-reports. Based on faulty memory and the aforementioned idea that participants want to present a favorable image of themselves, it was expected that participants would not be accurate in their retrospection, and the inaccuracies should be self-serving (Schwarz & Oyserman, 2001).

Study 1 **Method**

Participants

Participants were 247 New York University undergraduate students who received course credit. All participants were scheduled to take an exam two weeks after they started the study.

Procedure

Participants were randomly assigned to one of twelve conditions. The conditions varied on the number of diaries participants completed ("Diary" completed a diary every night for 2 weeks prior to the exam; "Panel" completed a diary one week prior to the exam and one day prior to the exam; "Cross-Section" completed a diary one day prior to the midterm); whether participants were told the experimenter was studying students' lives approaching a midterm or students' daily lives (Test or Neutral respectively); and whether the students completed a retrospective weekly diary (to be discussed in Study 2). Upon arrival at the lab, participants completed a demographic questionnaire and were given "diaries"

to complete before bed.

Measures

The diaries measured anxiety and depression using items from the Profile of Mood States (Lorr & McNair 1971). Depression was measured with "sad," "discouraged," "hopeless," and "worthless." Anxiety was measured with "on edge," "uneasy," "anxious," and "nervous." Ratings were done in the diaries on a five-point scale, 1 being "not at all" and 5 being "extremely." These ratings were later rescaled to a 0 - 4 scale, and means were calculated by averaging the rescaled values of the relevant items. On day 15, the average depression rating was .87 (SD = .90), and the average anxiety rating was 1.88 (SD = 1.09).

Results

The 15th night was of interest as all participants completed diaries on this night and produced significant results for anxiety. A 3 (Method Condition: Diary vs. Panel vs. Cross-Section) X 2 (Test Condition: Test vs. Neutral) between subjects ANOVA revealed a main effect of Method condition $F(2, 240) = 7.84$, $p = .001$. The Diary (M = 1.73, SD = 1.07), Panel (M = 1.87, SD = 1.06), and Cross-Section (M = 2.05, SD = 1.13) conditions reported progressively more anxiety. The Test condition (M = 2.07, SD = 1.08) reported more anxiety than the Neutral condition (M = 1.68, SD = 1.07); however this was not significant, $F(1, 240) = 1.73$, $p = .18$. There was no interaction between test condition and method condition, $F(5, 240) = .17$. A 3 (Diary vs. Panel vs. Cross-Section) X 2 (Test vs. Neutral) between subjects ANOVA on depression revealed a marginal main effect of Test condition $F(1, 240) = 3.20$, $p = .08$. The Test condition (M = .97, SD = .97) reported more anxiety than the Neutral condition (M = .77, SD = .82). There was also a Method condition main effect, $F(2, 240) = 3.48$, $p < .05$. Diary (M = .73, SD = .84), Panel

($M = .82$, $SD = .88$), and Cross-Section ($M = 1.08$, $SD = .97$) conditions reported progressively more depression. Again, the interaction was not significant, $F(5, 240) = .34$.

Discussion

There are multiple explanations for the differences in the self-report measures. Participants in the Test condition may have falsely reported more negative emotion because they thought it was what the researcher expected, and wanted to give the "right" answer (Schwarz 1999). Another possibility is that negative emotion at the time of a test is a socially appropriate response (Erikson, Luttberg, and Tedin, 1988; Schwarz, 1999) and participants wanted to conform to this norm. It is also possible that participants in the Test condition were primed to feel more stress because every diary reminded them of the upcoming midterm (Schwarz 1999).

Another explanation of differences between all conditions is that participants were unsure of how to interpret the questions (Groves, Fultz, and Martin, 1992; Clark & Schober 1992). Participants who completed a diary daily might have reported only for that given day, but participants in the Panel and Cross-Section conditions may have reported on the time that passed since they completed a diary. Therefore, the negative emotion they reported on one day would have been accumulated from the past week(s). Participants in the Test condition could have been reporting their feelings about the upcoming midterm rather than their emotional state, which could have been the same as participants' in the neutral condition.

Study 2 **Method**

Participants

Participants were 30 students from Study 1 who completed daily diaries and weekly retrospective diaries. Retrospective diaries contained questions identical to those in the daily diary, but applied to the past week.

Procedure

The procedure was the same as in the previous study using daily and weekly diaries.

Measures

In the daily diaries, participants were asked each day how many hours they spent in class, sleeping, studying, and socializing. In the weekly diaries, participants were asked to estimate how many hours on average they spent daily over the past week in the same activities.

Results

Results were obtained by calculating the arithmetic means of daily hours spent in activities (daily average) and the arithmetic mean of the weekly ratings and weekly hours spent in activities (weekly average). Daily average reports were compared to weekly average reports.

Paired samples t-tests produced significant differences in the daily average estimates and weekly average estimates in hours spent in class and marginally significant results in hours spent sleeping and hours spent studying. In the weekly diaries, participants reported spending fewer hours sleeping ($M = 6.90$, $SD = .85$) than in daily reports ($M = 7.16$, $SD = .68$), $t(26) = -1.64$,

$p < .15$. Conversely, participants reported in the weekly diaries spending more time in class in weekly diaries ($M = 3.47$, $SD = 1.43$) than in daily diaries ($M = 2.19$, $SD = .78$), $t(25) = 7.55$, $p < .05$. Participants also reported spending more time studying ($M = 3.15$, $SD = 1.51$) than in daily dairies ($M = 2.84$, $SD = 1.34$), $t(24) = 1.66$, $p < .15$.

Discussion

The reasons proposed for the inaccuracies in the retrospective self-reports were error in memory and desire to present a good image. Memory could explain the accuracy in hours socializing. Time socializing was concentrated over a few days, making it easy to keep track of the total hours for the week. Sleeping and studying are done on a regular basis, making it difficult to remember amounts of time spent in these activities. Memory could also explain participant's inaccuracy estimating time spent in class. It seems that this would be easy to calculate; students have a schedule for time in class each day. However, various events could interfere with the schedule and would be memorable at the end of that day but later be forgotten. Based on the elevated weekly estimate of hours in class, it is likely that participants answered based on their schedule, not reality.

However, faulty memory does not necessarily explain the selected discrepancies. Participants reported inflated weekly estimates of hours spent studying and decreased weekly estimates of hours spent sleeping. This, and the increased estimates of hours spent in class, suggests a self-serving motivation in the weekly estimates. It presents a favorable image of the participant if he or she has spent more time studying, slept less (presumably because of the extra time spent studying), and spent more time in class. An altered estimation of time socializing would not produce a positive image; more time socializing implies the participant has been "slacking off," Less time socializing may imply that the person

has fewer friends and is less popular.

Conclusion

While further research is needed, results from both studies indicate that self-report and diary measures do not present accurate descriptions of a person's life at a given point. Given the impact of diary condition, inaccuracy of retrospection, and previous research, it seems that self-report measures are unreliable. By understanding the mindset and motivation of participants, researchers will be better able to ask the question that they intend to study, and thereby get a more accurate response.

References

- Clark, H. H., & Schober, M. F. (1994). Asking questions and influencing answers. In: J.M. Tanur (Ed.), Questions about Questions: Inquiries into the Cognitive Bases of Surveys (p 15-48). New York: Russel Sage.
- Erikson, R. S., Luttbeg, N. R., & Tedin, K. T. (1988). American Public Opinion (3rd ed.). New York: Macmillan.
- Gleason, M. E. J., Bolger, N. P., & Shrout, P. (2001). The Effects of Research Design on Reports of Mood: Comparing Daily Diary, Panel, and Cross-Sectional Designs. Poster given at Society for Personality and Social Psychology Conference, San Antonio, Texas.
- Groves, R. M., Fultz, N. H., & Martin, E. (1992). Direct questioning about comprehension in a survey setting. In: J.M. Tanur (Ed.), Questions about Questions: Inquiries into the Cognitive Bases of Surveys (p 49-61). New York: Russel Sage.
- Lorr, M., & McNair, D. M. (1971). The Profile of Mood States Manual. San Diego, CA: Educational and Industrial Testing Service.
- Schwarz, N. (1999). Self Reports: How the questions shape the

answers. American Psychologist, 54, 93-105.

Schwarz, N., & Oyserman, D. (2001). Asking questions about behavior: Cognition, communication, and questionnaire construction. American Journal of Evaluation, 22, 127-160.