

*IMPROVING THE ACCURACY OF
SELF-REPORTS OF ADHERENCE*JACK W. FINNEY, DANA E. PUTNAM, AND
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Behavioral scientists who study socially important but difficult-to-measure behaviors often rely on self-reports. We evaluated the influence of three experimenter demands—demand for adherence, demand for accurate reports, and demand for accurate reports combined with a prompted recall strategy—on the accuracy of self-reports of adherence to a week-long prescribed regimen of twice-daily telephone calls. Self-reports of adherence were significantly more accurate in the accuracy demand/prompted recall group ($p < .05$). The analogue study should be replicated with other regimens and populations to determine the most effective strategies for enhancing the accuracy of self-reports.

DESCRIPTORS: adherence, self-reports, measurement, medical regimens

Self-reports of behavior have generated controversy in behavioral research. This controversy has been perpetuated by limited knowledge about how to influence the accuracy of self-reports. For many behaviors of interest to researchers, however, a self-report may be the only possible (e.g., private events) or pragmatic (e.g., sexual behavior) measure available. A self-report is verbal behavior and therefore is subject to stimulus control, reinforcement, punishment, and other contextual influences on behavior (Critchfield, Tucker, & Vuchinich, 1998). Given the importance of addressing socially relevant but difficult-to-measure behaviors, studies of verbal self-reports and strategies for enhancing their accuracy are needed.

One area of scientific inquiry that has relied heavily on self-reports of behavior is adherence to prescribed regimens (La Greca & Schuman, 1995), and several studies have

shown that patients overreport their medical adherence. However, conditions that influence the accuracy of self-reports of adherence need further study (Babor, Stephens, & Marlatt, 1987). For example, experimenter demand characteristics (e.g., social desirability) are presumed to serve stimulus control functions or alter establishing operations in adherence interviews. We evaluated the influence of three experimenter demands—demand for adherence, demand for accurate reports, and demand for accurate reports combined with a prompted recall strategy—on the accuracy of self-reports of adherence to a week-long prescribed regimen of twice-daily telephone calls.

METHOD

Participants were 45 undergraduate students (freshmen and sophomores) at a large university who received extra-credit points for an introductory psychology class. They attended a group enrollment session and completed the informed consent form. The experimenter informed participants that the study was about how cognitions influence behavior and, more specifically, whether students' urges to miss class influenced subse-

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quent class attendance. A telephone call regimen was "prescribed" that involved each participant making two telephone calls daily. For the morning call, the participant was to leave a phone message with the participant's code number and a self-report about urge to miss class (on weekdays) or urge to not study (on weekends). For the evening call, the message was to include whether the participant attended classes that day (on weekdays) and whether the participant studied (on weekends). An individual follow-up appointment was scheduled for the 8th day of the regimen. Participants were encouraged to return for the follow-up because reliable and valid results depended on full participation.

Participants were randomly assigned to one of three groups. At the follow-up, each participant met individually with an experimenter. All individuals received much of the same information and instructions, including that (a) a few brief questionnaires would be completed shortly; (b) the phone mail system had malfunctioned and that messages were apparently taped, but were not retrievable; (c) the experimenters therefore had no records of telephone calls and urges and classes missed and attended; and (d) the study information needed to be reported by the participant at this appointment. According to experimental group, the following additional instructions were given by the experimenters, who followed written scripts for each condition.

For the adherence demand group, the experimenter informed each participant that it was important that as many telephone calls as possible had been made and that the study depended on his or her having made the phone calls. For the accuracy demand group, the experimenter informed each participant that while it was obviously important that the participant made the telephone calls during the past 7 days, it was even more important that an accurate self-report be given and that the study's results depended on

accurate self-reports. For the accuracy demand/prompted recall group, the experimenter provided the same information as described for the accuracy demand group. In addition, the experimenter helped participants in this group to report more accurately by reviewing events that took place each day of the regimen. The participant was asked to describe his or her telephone adherence in the context of those events. The general procedure was one of improving the accuracy of daily self-report by having the individual recall events that made that day's performance salient.

After questionnaires had been completed, each participant was debriefed about the purposes of the study and informed that the phone mail system had, in fact, worked properly. All subjects' questions about the study were answered. Only 3 participants reported that they suspected that the study was about whether they made the phone calls; none reported that they suspected that the study was about whether they would report accurately about their phone calls.

Two measures were used in the analyses. The number of telephone calls made was determined by listening to messages on phone mail and recording data by the participant's study code number. Two observers retrieved messages simultaneously but independently for 3 days; there was 100% agreement on recorded messages. Self-reports of the number of calls made and missed for the past week were recorded at the individual follow-up sessions.

RESULTS AND DISCUSSION

Table 1 shows that all groups on average overreported adherence. The adherence demand group reported they had made 123% of the calls they had actually made; 69% of participants in this group overreported adherence. The accuracy demand group reported they had made 112% of calls made;

Table 1
Self-Reported and Objective Adherence for Experimental Groups

Subject	Reported/made = % ^a		
	Adherence demand ^b	Accuracy demand	Accuracy demand/ prompted recall
1	9/5 = 180	11/7 = 157	10/7 = 143
2	9/6 = 150	12/8 = 150	11/8 = 138
3	9/6 = 150	13/11 = 118	10/9 = 111
4	12/9 = 133	8/7 = 114	14/13 = 108
5	10/8 = 125	9/8 = 113	14/13 = 108
6	10/8 = 125	9/8 = 113	14/13 = 108
7	12/10 = 120	13/12 = 108	14/14 = 100
8	12/10 = 120	13/12 = 108	14/14 = 100
9	12/11 = 109	14/14 = 100	13/13 = 100
10	13/13 = 100	14/14 = 100	12/12 = 100
11	12/12 = 100	13/13 = 100	12/12 = 100
12	11/11 = 100	12/12 = 100	10/10 = 100
13	12/13 = 92	11/11 = 100	9/9 = 100
14		10/10 = 100	9/9 = 100
15		12/13 = 92	9/9 = 100
Group average	123*	112	107

^a *Reported* refers to the number of telephone calls that participants reported they had made. *Made* refers to the number of telephone calls that had been made. Percentages greater than 100% indicate overreporting; percentages less than 100% indicate underreporting.

^b Two subjects in the adherence demand group did not return for the follow-up visit.

* Adherence demand > accuracy demand/prompted recall, $p < .05$.

53% overreported. The accuracy demand/prompted recall group reported that they had made 107% of their calls; 40% overreported. A Kruskal-Wallis multiple comparison test indicated a significant difference among the groups ($p < .05$). Mann-Whitney U tests showed that accuracy was reliably different between the adherence demand and accuracy demand/prompted recall groups ($p < .05$). Adherence to the telephone-call regimen (i.e., the number of calls made) was not significantly different across the three groups.

Demand characteristics and the prompted recall strategy influenced the accuracy of self-reports of adherence to a prescribed regimen. Although the adherence demand/prompted recall group had the most accurate average self-report and the largest number of participants reporting accurately, some subjects in each group overreported adherence.

Overreporting could be attributable to both experimenter demands and recall errors.

The results of this analogue study, although encouraging, are limited by the small sample size. Systematic replications will provide further knowledge about the use of self-reports for research on adherence and other behaviors that are often measured with self-report methods. Studies of other regimens, participants with varying characteristics (e.g., age, educational level, illnesses), and other strategies that influence the accuracy of self-reports (Babor et al., 1987; Critchfield et al., 1998) are needed to improve behavioral scientists' ability to study a range of socially important but difficult-to-measure behaviors.

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