SOCIETY FOR THE TEACHING OF PSYCHOLOGY

Teaching of Psychology
2015, Vol. 42(2) 143-148

DOI: 10.1177/0098628315573137
top.sagepub.com
SAGE

Improving Research Participant Ethics: The Utility of an Online Educational Module

Larissa K. Barber[1], Sarah F. Bailey[1], and Patricia G. Bagsby[2]

Abstract

The undergraduate psychology curriculum often does not address guidelines for acceptable participant behavior. This two-part study tested the efficacy of a recently developed online learning module on ethical perceptions, knowledge, and behavior. In the preliminary quasi-experiment, students who viewed the module did not have higher end-of-semester ethical perceptions than a control group, although the experimental group demonstrated increased ethical knowledge and behavior than the control group. Study 2 replicated these findings with a pretest–posttest experimental design at another university. These findings lend support for the module increasing ethical knowledge and behavior, although not necessarily perceptions. However, exploratory analyses suggested that ethical perceptions appear to increase across all research participants through experience.

Keywords

participant ethics, learning module, careless responding, ethical perceptions

Research ethics are a central component of psychological science education, which address two of the five primary goals of the American Psychological Association's (APA; 2007) guidelines for the undergraduate psychology major, namely, research methods in psychology and values in psychology. Undergraduate students learn classic ethical dilemmas in general psychology courses (e.g., Milgram and Zimbardo experiments) to encourage critical thinking and discussion regarding researcher responsibilities for protecting participant rights. Although research ethics topics in introductory psychology textbooks have received slightly more treatment over the past 25 years, issues still remain with the comprehensiveness of ethical topics covered (Zucchero, 2011).

One often neglected topic in general psychology course textbooks is the ethical responsibilities of participants in research (see Korn, 1988). Example behaviors include taking a sufficient amount of time to read instructions or items thoroughly, asking for clarifications, avoiding response distortions (random, careless, or dishonest answers), arriving to the scheduled appointment on time, and limiting distractions when completing online surveys. These behaviors are considered to be ethical because they represent guidelines for appropriate participant behavior in the research process (Barber & Bagsby, 2012). Failure to meet these responsibilities can cause harm in the form of undermining the validity of psychological research (Credé, 2010).

Violation of participant responsibilities is a pervasive issue with college student samples (e.g., Edlund, Sagarin, Skowronski, Johnson, & Kutter, 2009; Klein & Cheuvront, 1990), which is a significant issue in psychological science because most research participants are recruited from these courses (Kimmel, 2007; Korn, 1988; Sieber & Saks, 1989). Additionally, psychology departments defend research participation requirements as educational because they expose students more directly to the research process (Kimmel, 2007). However, the current state of participant responsibilities education is sparse, with educators and researchers assuming that students know what "good participant behavior" entails.

A key learning outcome of the APA's values in psychology goal is to "recognize the necessity of ethical behavior in all aspects of the science and practice of psychology" (APA, 2007, p. 17). In response to the participant responsibilities educational gap, Barber and Bagsby (2012) recently created a module titled "You are Not a Mouse: Participant Rights and Responsibilities for Ethical Research Conduct," which is available in both paper and an online format. The module covers four main topic areas including importance of research to participants, researchers, and society; participant rights and responsibilities; threats to participant responsibilities (such as boredom or fatigue); and strategies that participants should use to engage more fully in their participant role. The purpose of this study was to test the efficacy of this learning module in meeting three objectives among general psychology students,

[1] Department of Psychology, Northern Illinois University, DeKalb, IL, USA
[2] Saint Louis University, Saint Louis, MO, USA

Corresponding Author:
Larissa K. Barber, Department of Psychology, Northern Illinois University, 1425 W. Lincoln Hwy, DeKalb, IL 60115, USA.
Email: lbarber@niu.edu

that is, increasing (a) the identification of potential participant ethical issues (perceptions), (b) knowledge of both participant rights and responsibilities (knowledge), and (c) behavior when participating in research studies (behavior).

Using an online version of the module, we examined the potential efficacy of the module in two samples across two academic institutions. Specifically, we compared end-of-semester ethical perceptions, knowledge, and careless survey responding behavior between students who completed the module (experimental group) versus those who did not (control group). We hypothesized that students who viewed the module 6 weeks earlier would report higher ethical perceptions (Hypothesis1a), answer more ethical knowledge questions correctly (Hypothesis1b), and engage in less careless responding to an online survey (Hypothesis1c) compared to those who did not view the module.

Study 1: Initial Test of the Module (Quasi-Experimental Design)

Method

Participants and Procedures

We conducted the first study at a mid-sized private university in the Midwest. We recruited participants through the psychology department's research pool platform (SONA Research Management System) via an online survey link in three phases. All psychology students aged 18 and older were eligible to participate in the study. In Phase I (experimental group recruitment), the online learning module was posted during the middle of the semester for 2 weeks (Week 7 and 8 of 15; data could not be collected during Week 16 due to finals). The full module content is located on the Society of Teaching Psychology's Office of Teaching Resources in Psychology (OTRP) website (http://teachpsych.org/resources/Documents/otrp/resources/barber12.pdf). As this was a preliminary test, the module for this study is an earlier version than the one found on the OTRP website. Most of the content is consistent across these two versions; however, please contact the first author to see the earlier version. In Phase II (secondary study), we posted a seemingly unrelated study for 6 weeks under a different experimenter name (advertised as "Perceptions of School/Work"). This survey included attentiveness items to detect careless responding behavior. In Phase III (control group recruitment) we posted another survey during the last week of the semester (Week 15), advertised as "Research Participation Experiences." We excluded participants from Phase I from accessing the Phase III link on SONA to prevent duplicate responses. However, we sent Phase I participants an identical "follow-up" survey via e-mail about research experiences to match the control group that contained measures of end-of-semester ethical perceptions and knowledge. All participants received a debriefing e-mail at the end of the study regarding the study's purpose and permission to use their data from the secondary survey. All participants gave their consent to use the secondary study data.

Response rates and final sample for data analysis. The experimental group consisted of participants who had completed all phases of the survey. Sixty participants initially completed the learning module, but only 32 completed the Phase III survey 6 weeks later. Not all of these participants participated in the Phase II survey, yielding a final sample size of 19 for the experimental group (31.7% response rate). The control group consisted of participants who had completed both Phases II and III. Fifty-two participants responded to the Phase III survey, although only 25 individuals in this control group also completed the Phase II survey (48% response rate). The final 44 participants (experimental and control group combined) used for analyses were from General Psychology courses and were predominately women (61.3%) and Caucasian (79.5%).

Measures

Ethical perceptions consisted of 15 items regarding potentially unethical participant behaviors. These items were from Barber and Bagsby's (2012) suggested activity for assessing student perceptions based on Korn's (1988) discussion of participant responsibilities. Although many of the items imply major ethical issues (e.g., purposely "messing with the data"), others are much more ambiguous and could be considered a minor ethical issue (e.g., choosing only specific types of study formats out of convenience). Response options were *no ethical issue* (0), *minor ethical issue* (1), and *major ethical issue* (2). We averaged the items for total scores, creating a range from 0 to 2. Higher scores represent more concern over ethical issues associated with each behavior.

Ethical knowledge consisted of four multiple-choice items based on the module. See the Appendix for these items (along with the correct answers), as they are somewhat different than those found in the OTRP document (2 items are the same). We summed the items and possible correct scores ranged from 0 to 4.

We measured *ethical behavior* via 3 items placed in another online survey during Phase II. These items read "For data quality control, please select 'strongly disagree" and were similar to random response scale strategies used in other research on careless participant responding (Beach, 1989; Meade & Craig, 2012). These items were on three separate pages toward the beginning, middle, and end of the online survey, and we coded them as 0 (*missed*) and 1 (*correct*). We summed the items and possible scores ranged from 0 to 3.

Results

Preliminary Analyses

Attrition. Given that we reduced the final sample size to 44 from 112, we conducted preliminary analyses to detect any factors related to participant attrition that could substantially affect analyses. Among those who completed the module (Time 1), independent samples t tests indicated that there were no

differences in ethical perceptions or ethical knowledge between those who completed the follow-up versus those who did not in the module. There were also no differences in ethical perceptions or correct knowledge questions on the end-of-semester survey (Time 2) based on secondary survey completion. Thus, the following analyses only include the 44 participants who completed all phases of the study (19 in the experimental group, 25 in the control group). There were no significant differences between groups in the number of studies students reported completing at the time of taking the follow-up survey nor the type of studies completed (online vs. laboratory studies).

End-of-Semester Group Comparisons

We conducted independent samples t tests to test Hypotheses 1a, 1b, and 1c. Although the data trended in the expected direction, the results did not support Hypothesis 1a. Participants who viewed the learning module 6 weeks prior ($M = 1.29$, $SD = 0.35$) did not have significantly higher ethical perceptions than the control group ($M = 1.18$, $SD = 0.28$), $t(42) = -1.19$, $p = .24$, $r = .17$, although results trended in the expected direction. Hypothesis1b was supported as participants who viewed the learning module ($M = 2.32$, $SD = 1.25$) did have significantly higher ethical knowledge, $t(42) = -2.48$, $p = .02$, $r = .36$, than those in the control group ($M = 1.56$, $SD = 0.77$). Finally, Hypothesis1c was supported in that participants who viewed the module ($M = 2.68$, $SD = 0.75$) engaged in more ethical behavior in another online survey, $t(42) = 2.20$, $p = .03$, $r = .32$, than those in the control group ($M = 1.96$, $SD = 1.27$). That is, module viewers missed less careless responding detection items than the control group on the secondary survey, potentially due to increased attention and focus while engaged in the study.

Discussion

Study 1 provided some promising initial results regarding the efficacy of an online learning module for teaching participant ethics and impacting participant behavior in studies (with robust effect sizes). Participants who viewed the module performed better than a control group on knowledge questions at the end of the semester, which demonstrates the module's sustained impact on ethical knowledge over 6 weeks. However, there were no differences between groups in ethical perceptions. Moreover, participants who viewed the module completed a different study with more attentiveness than those who did not, showing strong support for the intended behavioral benefits of the module. This shows that the module can potentially affect students' attention to detail in subsequent research studies, at least over a 6-week period.

Study 2: Replication and Extension (Experimental Design)

We conducted a second study to address four primary limitations of Study 1. First, our end-of-semester comparisons did not control for initial ethical perceptions or knowledge at the beginning of the study. Second, there were only four ethical knowledge retention items, which may tap into rote memory rather than application. Barber and Bagsby (2012) developed better knowledge retention items since the Study 1 data collection, which focus on knowledge application. Third, there was a potential confound in that we did not randomly assign participants to the experimental and control groups (due to some logistical constraints of our particular participant pool). We recruited the experimental group mid-semester and the control group late in the semester; thus, it could be possible that more conscientious students (who may also sign up for studies earlier in the semester) were in the experimental group compared to those who participated later in the semester. Although our attrition analyses suggested no differences that raise concerns regarding who participated at various stages of the study, having an extended recruitment period with random assignment would better help alleviate this issue. Thus, we incorporated the following methodological improvements to Study 2 to replicate and extend our findings from the first study: (a) pretest scores for ethical perceptions, knowledge, and behavior, (b) improved knowledge questions that better test ethical knowledge application, (c) random assignment to experimental–control conditions, and (d) extended participant recruitment over multiple weeks in the semester.

Method

Participants and Procedures

We conducted the second study at a mid-sized public university in the Midwest. Similar to Study 1, we recruited participants through the psychology department's research pool platform (SONA Research Management System). Unlike Study 1, we asked all participants to complete all three phases of the study and randomly assigned them to experimental–control conditions.

All psychology students aged 18 and older were eligible to participate in the study. In Phase I, participants completed the first survey after signing up for the experiment, which contained a questionnaire regarding individual differences that may affect attrition in longitudinal studies (i.e., self-control and time perspective) and the ethical perceptions and knowledge pretest items. After completing this portion of the survey, half of the respondents were randomly assigned to view a link that redirected to the online ethics module (experimental group). The other half viewed a module about doing well in psychology courses (control group), which was adapted from Landrum (2002).

In Phase II, participants received an e-mail from the experimenter requesting them to complete another online survey regarding ''personality and school behaviors.'' The experimenter sent the e-mail 3 weeks after the completion of the Phase I survey. We embedded a variety of personality and counterproductive (and productive) academic behavior measures intended to catch careless responding. In Phase III, participants received an e-mail from the experimenter asking them to complete the

ethical perceptions and knowledge posttest measures. This e-mail was sent 6 weeks after the completion of the Phase I survey (3 weeks after Phase II).

Response rates and final sample for data analysis. Of the 103 participants who completed the Phase I survey questions, only 87 participants continued on to the link to view an experimental or control module. We disqualified those who did not read a module from continuing with the study. We removed an additional 16 participants from the data before analyses for taking less than 5min to view the experimental module. The cases for final data analyses included the 56 participants who completed all three surveys (29 experimental and 27 control groups combined). Participants used in the final sample were predominately women (51.8%) and Caucasian (64.3%).

Measures

Ethical perceptions items were identical to Study 1, except we changed the response scale to 0–3 to allow for a "moderate ethical issue" response (in addition to none, minor, and major) to potentially detect more nuanced impressions of ethicality. *Ethical knowledge* consisted of 10 multiple-choice items based on the module. These items (along with the correct answers) are presented in the OTRP document. We summed these items for total scores, with possible scores ranging from 0 to 10 correct. We measured *ethical behavior* via 2 items in the pretest and posttest measures. The pretest item was mixed in with the self-control measure and read "I sleep less than one hour per night." The posttest item was mixed in with the personality measures and read "I have been to every country in the world." These 2 items were derived from Meade and Craig (2012) and recoded into 0 (*missed*) and 1 (*correct*) based on if they correctly responded with *strongly disagree* or *disagree*. We purposely selected different items than Study 1 to determine if the effect would be robust across different operationalizations of careless responding. We also only put in 1 item for the pretest–posttest design to avoid learning or practice effects.

Results

Preliminary Analyses

Attrition. Among those who completed the module (Time 1), independent-samples *t* tests indicated that there were no differences in pretest ethical perceptions, pretest ethical knowledge, self-control, and time perspective between those who completed the entire study versus those who did not.

Group differences in perceptions, knowledge, and behavior. We conducted three analysis of covariance (controlling for respective pretests) to test Hypotheses 2a, 2b, and 2c. Although in the expected direction, results did not support Hypothesis 2a. Participants who viewed the learning module ($M = 1.84$, $SD = 0.46$) did not have significantly higher posttest ethical perceptions than the control group ($M = 1.77$, $SD = 0.46$), $F(1, 53) = 0.32$, $p = .57$, partial $\eta^2 = .006$. Additionally, we tested whether this lack of effect was due to an increase in overall ethical perceptions across all participants through experiential learning. A paired-samples *t* test demonstrated that ethical perceptions significantly increased from pretest ($M = 1.63$, $SD = 0.68$) to posttest ($M = 1.80$, $SD = 0.65$) across all participants over the 6-week time period, $t(55) = -2.54$, $p = .01$, $r = .32$

Hypothesis 2b was supported, as participants who viewed the learning module ($M = 4.76$, $SD = 1.68$) did have significantly higher posttest ethical knowledge than those in the control group ($M = 3.83$, $SD = 1.68$), $F(1, 51) = 4.11$, $p = .04$, partial $\eta^2 = .08$. Hypothesis 2c was supported, as participants who viewed the learning module ($M = 0.99$, $SD = 0.30$) correctly responded to the careless responding detection posttest item more frequently than those in the control group ($M = 0.76$, $SD = 0.30$), $F(1, 51) = 8.30$, $p = .01$, partial $\eta^2 = .14$. Exploratory paired-samples *t* tests confirmed that there were no overall changes in ethical knowledge or behavior across time. Thus, it appears that not all participants learned research participant rights and responsibilities or appropriate online survey-taking behavior over time.

Overall Discussion

The purpose of this study was to examine the outcomes of a recently developed ethics module for introductory psychology students participating in research. In Study 1, participants who viewed the learning module had higher ethical knowledge and ethical behavior (i.e., attentiveness) than those who did not. Study 2 substantiated these findings with pretest comparisons of ethics perceptions, knowledge, and behavior. Learning module participants had significant increases in both posttest ethical knowledge and ethical behavior. Although the learning module participants did not have significantly higher ethical perceptions than control module participants, the results in both studies trended in the predicted direction. However, exploratory analyses suggested that ethical perceptions increased over the 6-week period for all participants and thus may be something that participants learn through more research participation experience. This trend did not hold for ethical knowledge and behavior across all participants, suggesting that the module affects these factors more than experiential learning.

There are various strengths to this module. The module's content addresses guidelines for appropriate research participant behavior and conveys the importance of taking one's role as a research participant seriously while also educating students about their rights in the research process. Combining these approaches emphasizes the reciprocal nature of the research contract that emphasizes appropriate behavior for both researchers and participants (Barber & Bagsby, 2012; Korn, 1988). Other key strengths of the module include accessibility and flexibility. The content is also easily accessible online in its current form, which allows instructors to use it to complement classroom instruction. Instructors can also use the document version to adapt the content to their specific needs in the classroom. Finally, the ethical perceptions items that accompany the module can help raise participants' awareness of the ethical

context of psychology research. Given that participants' unethical behavior is such a widespread problem for researchers (Edlund et al., 2009) and the initial results of this study, we invite other psychology teachers to utilize this module to make students more aware of their part in psychology research.

Limitations and Future Directions

We encourage future research to provide further tests of the module that address some of the limitations of the current studies. Despite finding differences in ethical knowledge and behavior due to module viewing, our lack of findings for ethical perceptions is perplexing. This issue could be due to low statistical power combined with smaller effect sizes. Our results did trend in the expected direction (i.e., experimental group had higher ethical perceptions), so perhaps a larger sample size will detect a significant difference between groups in the future.

We also encourage future studies to explore measurement options for participant behaviors and time periods as well as module delivery (i.e., online only vs. in class discussion and activities). Specifically, it would be helpful to take a more multifaceted approach to measuring participants' behaviors in other studies, such as no-shows and late arrivals in laboratory studies, as our current behavioral measure was limited to careless responding in online surveys. In addition, conducting future studies over longer time periods (i.e., beginning to end of the semester rather than 6 weeks) with more frequent measurement would help elaborate on the time course of knowledge retention and ethical changes over time. Finally, the online version of the module presented here also potentially represents the weakest delivery mode for producing perceptual, knowledge, and behavioral effects. Perhaps online module delivery combined with class discussion activities, similar to blended learning strategies (e.g., Cottle & Glover, 2011), would produce stronger and lasting effects over the course of the semester.

Despite the study limitations, our findings suggest positive effects of an online learning module on research participants' ethical knowledge and behavior that generalized across two separate institutions. This module fills a gap in APA guidelines to teach psychology students about all aspects of ethical behavior in the research process. Although future researchers should replicate and examine the utility of the module, these findings provide preliminary evidence that an online learning module, focusing on participant rights and responsibilities, can be an informative and useful teaching resource.

Appendix

Original Knowledge Retention Questions

Knowledge retention questions

Below you will find four questions designed to test your knowledge research participation processes, rights, and responsibilities.

1. Which of the following is NOT entirely correct about research participation?

- ○ The aim of psychological research is to educate you on the research process
- ○ Research participation can help you link concepts you learn in class to real-world application
- ○ Your data may be used to impact important policy decisions
- ○ Exercising your rights as a participant may increase personal value of research participation.

2. Which of the following is NOT one of your rights as a participant?

- ○ Benefits and knowledge
- ○ Withdrawal or decline participation
- ○ Distribute debriefing
- ○ Confidentiality

3. Which of the following is NOT one of your responsibilities as a participant?

- ○ Engagement
- ○ Informed consent
- ○ Confidentiality
- ○ Benefits and knowledge

4. Which of the following threats (or "mousetraps") are more common in online surveys than laboratory studies?

- ○ Demand characteristics and environmental disturbances
- ○ Boredom/fatigue and environmental disturbances
- ○ Psychological/physical distance and demand characteristics
- ○ Psychological/physical distance and environmental disturbances

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

References

American Psychological Association. (2007). *APA guidelines for the undergraduate psychology major*. Washington, DC: Author. Retrieved from http://www.apa.org/ed/precollege/about/psymajor-guidelines.pdf

Barber, L. K., & Bagsby, P. G. (2012). Beyond milgram: Expanding research ethics education to participant responsibilities. Retrieved from http://teachpsych.org/resources/Documents/otrp/resources/barber12.pdf

Beach, D. A. (1989). Identifying the random responder. *Journal of Psychology*, *123*, 101–103. doi:10.1080/00223980.1989.10542966

Cottle, N. R., & Glover, R. J. (2011). Teaching human development: A case for blended learning. *Teaching of Psychology*, *38*, 205–208. doi:10.1177/0098628311411900

Credé, M. (2010). Random responding as a threat to the validity of effect size estimates in correlational research. *Educational and Psychological Measurement*, *70*, 596–612. doi:10.1177/0013164410366686

Edlund, J. E., Sagarin, B. J., Skowronski, J. J., Johnson, S. J., & Kutter, J. (2009). Whatever happens in the laboratory stays in the laboratory: The prevalence and prevention of participant crosstalk. *Personality and Social Psychology Bulletin*, *35*, 635–642. doi:10.1177/0146167208331255

Kimmel, A. J. (2007). *Ethical issues in behavioral research: Basic and applied perspectives* (2nd ed.). Malden, MA: Blackwell.

Klein, K., & Cheuvront, B. (1990). The subject–experimenter contract: A reexamination of subject pool contamination. *Teaching of Psychology*, *17*, 166–169. doi:10.1207/s15328023top1703_6

Korn, J. H. (1988). Students' roles, rights, and responsibilities as research participants. *Teaching of Psychology*, *15*, 74–78. doi:10.1207/s15328023top1502_2

Landrum, R. E. (2002). Tips for doing well in psychology courses. *Eye on Psi Chi*, *6*, 16–19. Retrieved from http://www.psichi.org/pubs/articles/article_13.aspx

Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods*, *17*, 437–455. doi:10.1037/a0028085

Sieber, J. E., & Saks, M. J. (1989). A census of subject pool characteristics and policies. *American Psychologist*, *44*, 1053–1061. doi:10.1037/0003-066X.44.7.1053

Zucchero, R. A. (2011). Psychology ethics in introductory psychology textbooks. *Teaching of Psychology*, *38*, 110–113. doi:10.1177/0098628311401583