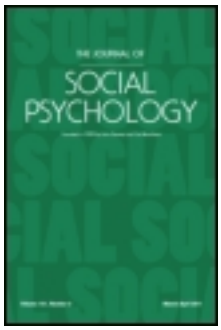

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The Prevalence and Prevention of Crosstalk: A Multi-Institutional Study

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ABSTRACT. It is a common problem in psychology subject pools for past study participants to inform future participants of key experimental details (also known as crosstalk). Previous research (Edlund et al, 2009) demonstrated that a combined classroom and laboratory treatment could significantly reduce crosstalk. The present investigation tested a laboratory-only treatment for the prevention of crosstalk at five universities along with institutional-level moderators of crosstalk. Results indicated the presence of crosstalk at all universities and that the laboratory-based treatment was effective in reducing crosstalk. Importantly, crosstalk rates were higher (but successfully neutralized) in research pools with higher research credits requirements. Therefore,

this research provides valuable guidance regarding crosstalk prevalence and its minimization by researchers.

Keywords: Research methods; Crosstalk; Participant Pools; Social Influence; Data Integrity

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NON-NAÏVE RESEARCH PARTICIPANTS ARE A significant problem for psychological researchers (Aronson, Ellsworth, Carlsmith, & Gonzales, 1990). A non-naïve participant is a participant who (through any number of means) knows critical information related to a particular study. Importantly, non-naïve participants may behave differently from naïve participants (Nichols & Maner, 2008). The primary reasons why research participants lose their naïveté to a particular research study are that they decipher the hypothesis of the researcher through the research protocol (Aronson et al., 1990) or arrive with foreknowledge of the research. Participant crosstalk is problematic and occurs when previous participants reveal key experimental information to future participants (Edlund, Sagarin, Skowronski, Johnson, & Kutter, 2009). Edlund et al. (2009) investigated two techniques for reducing crosstalk (a classroom based technique and a combined classroom and laboratory-only technique). In combination, these two techniques successfully decreased detectable crosstalk from 3% to 0.004%.

The current study tested a laboratory-only treatment for preventing crosstalk at five different universities. We predicted the detection of crosstalk at every university, and that a laboratory-only treatment would significantly reduce the prevalence of crosstalk across the different

universities. Additionally, we examined contextual variables across the universities to explain differences in crosstalk prevalence and treatment effectiveness.

Method

Participants

A total of 3,607 students participated across five universities.

Materials

A pretest determined the normal range of guesses for the number of gumballs in a glass jar. Using this knowledge, we artificially set the reported number of gumballs in the jar to a non-common guessing point (i.e., not a multiple of 100), within 1 standard deviation of the average guess during the pretest, and at a value that was different from the actual number of gumballs in the jar.

Procedure

At the conclusion of unrelated experiments, participants were given the opportunity to guess the number of gumballs in a glass jar. Following the methodology laid out in Edlund et al (2009), we tested an experimental condition where only a laboratory based treatment was used (p.639). In the experimental condition experimenters said: “Thanks for trying. I would like to ask that you not tell anyone about this experiment to help keep guesses normal. Is that okay with you?” After

receiving verbal agreement the experimenters dismissed the participants from the laboratory. In the control condition, no verbal request was made (p.637).

Additionally, we assessed how onerous the requirement was for the research alternative (number of papers) and the length of time required to complete the research participation requirement.[1]

Results

First, we examined the effectiveness of our treatment by collapsing across all universities and did not find an overall effect of the laboratory-only treatment of crosstalk, $\chi^2(1, N = 3607) = 1.40$, $p_{Fisher's\ exact} = .16$ (see Table 1 for a detailed breakdown of the crosstalk prevalence rates by condition). Further, condition order did not impact the results $b = .63$, $S.E._b = .46$, Wald (1 df) = 2.11, $p > .10$.

An inspection of the means suggested that the baseline rate of crosstalk varied by institution. Therefore, we explored potential moderators of crosstalk by entering each moderator into separate logistic regression analyses. The nature of the alternative requirements (number of papers) interacted with experimental condition to predict the prevalence of crosstalk, such that higher requirements led to increased rates of crosstalk in the control condition. Rates in the experimental condition were similar regardless of the requirements (Table 1), $b = .78$, $S.E._b = .40$, Wald (1 df) = 4.70, $p = .03$, Cramer's V= 0.52. The length of time (number of hours to complete the requirement) required to complete the research requirement also interacted with experimental condition to predict the prevalence of crosstalk such that higher participant

requirements led to increased rates of crosstalk in the control condition, while rates in the experimental condition were similar to the rates found in universities that did not have high requirements; b = .45, $S.E._b$ = .21, Wald (1 df) = 4.73, p = .03, Cramer's V= 0.53.

Discussion

We investigated the prevalence of participant crosstalk across five different universities and found evidence of crosstalk at each. Given that our institution characteristics (location, size, etc.) varied greatly, our data indicate the importance of crosstalk and of its consideration by psychology subject pool coordinators and researchers using introductory psychology participants. More importantly, the rate of crosstalk and success of its treatment varied between institutions. Specifically, institutions that demanded more out of their research participants had higher rates of crosstalk. Of course, the astute reader might note that several other variables appear to co-vary with institutional requirements (such as the size of the university's student body or prestige of the university). However, we measured variables related to these institutional-level variables (e.g. the size of the introduction to psychology pool) and they did not impact the results. Additionally, Northern Illinois University (NIU) reported substantially less crosstalk in the current sample than was reported in Edlund et al. (2009). We believe this difference further supports our argument that the requirements of introduction to psychology courses matter; NIU's research requirements are lower now than they were in Edlund et al (2009).

These findings have important implications for researchers collecting data from psychology subject pools. First, crosstalk occurred at every university suggesting that researchers need to be concerned with its detection–independent of institution. Second, crosstalk occurs more frequently in participant pools that demand more from their participants indicating the importance of employing techniques to reduce crosstalk for researchers at universities with more demanding psychology subject pools. In our study, we demonstrated that a laboratory-based treatment (consisting of one sentence) successfully reduced rates of crosstalk at these high demand schools. Future research should consider these findings and examine factors that will help reduce and detect participant crosstalk.

Note

[1] We also assessed several other potential variables that varied between the universities. These were non-significant (and available from the authors upon request).

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Table 1 The Rates of Crosstalk Across Conditions

	Condition	
University	Control	Experimental
East Tennessee State University	3/146 (2.0%)	3/83 (3.6%)
Northern Illinois University	2/478 (0.5%)	1/243 (0.5%)
Stephen F. Austin State University (TX)	2/403 (0.5%)	2/223 (1.0%)
University of Alabama	5/392 (1.3%)	1/243 (0.5%)
University of Florida	8/680 (1.2%)	2/716 (0.3%)