Minimizing Iatrogenic Effects of Web-based Motivational Programs on Academic Achievement

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Method (cont.)

Results (cont.)

The repeated-measures ANCOVA revealed a significant within-subjects three-way interaction between time, self-esteem, and AR on GPA, F(2, 32) = 2.572, p < .10. Effects under p < .10 were considered significant in light of the exploratory nature of this analysis.

Discussion (cont.)

students had the greatest chance of obtaining a job after participating in a writing-based AR intervention.

In the case of high self-esteem students, the findings suggested that only aptitude test AR harmed GPA (writing AR participants performed similarly relative to controls). In previous in-person AR studies, both AR versions were found to harm high self-esteem students.

The results of the present study are encouraging in that the unusual iatrogenic effect of previous in-person AR research in high self-esteem students performed worse after receiving AR, was only found for one version of the web-based AR. Furthermore, the iatrogenic effect for high self-esteem students in the aptitude test version began to reverse itself by the end of the next semester. Future research whether these trends continue on more longitudinal measures is needed to gain a more comprehensive understanding of the effects of web-based AR on academic performance.

Method

Participants

The initial study sample consisted of 888 university students (mean age = 20.67, SD = 2.93, 65% male) enrolled in a multi-section introductory psychology course.

Procedure

In the second semester of data collection (winter 2007), all participants completed a web-based questionnaire including self-esteem and demographic measures (20-30 minutes). Participants were assigned to the AR treatment or No AR control group based on the order at which they arrived at the preceding questionnaire (i.e., even numbers = AR, odd numbers = No AR). Participants in the AR treatment were randomly assigned to one of two conditions (aptitude test or writing assignment) and were then immediately presented with the intervention (20 minutes). Sessional grade point averages (GPA) were obtained from the university registrar’s office for all study participants.

Analysis

The analysis consisted of a 2 (low/high self-esteem) x 3 (Aptitude Test, Writing AR, No AR) repeated-measures ANCOVA on two post-AR GPAs. To control for potentially confounding results due to the degree to which the participants were engaged in the experimental protocol, the covariates included were the time elapsed during the pre-AR survey and the order in which the participants began the preceding questionnaire. Based on one-way ANOVAs and chi-square analyses revealing significant AR initial differences on English as a first language and Fall '06 GPA, these variables were also included as covariates. Additionally, course load was included as a covariate to eliminate potential confounds due to students’ enrollment status.

References