



Video Game Play and Anxiety during Adolescence: The Moderating Effects of Gender and Social Context

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ABSTRACT

Few studies have examined factors that moderate the relationship between playing video games and adolescent psychological adjustment. Therefore, the primary goal of this study was to examine the relationship between playing video games and anxiety symptomatology in a sample of 441 11th and 12th grade students, while considering both gender and the social context (whether they played alone or with others). Results indicated that both gender and the social context moderated the relationship between playing video games and anxiety symptomatology. Boys who played video games the most had the lowest levels of anxiety, whereas girls who played video games the most had the highest levels of anxiety. This relationship was exacerbated in the context of playing with others. Findings from this study underscore the need to consider both gender and the social context when examining the relationship between playing video games and adolescent psychological adjustment.

SAMPLE AND PROCEDURE

- The sample included 411 11th and 12th grade students (M age = 17.14, SD = .78 years, 66% Caucasian) from the Mid-Atlantic region (DE, MD, and PA) of the United States
- Surveys were administered to participants in school in the spring of 2008 and the spring of 2009 by trained research staff
- The survey took approximately 40 minutes to complete
- Participants were given a movie pass as compensation for their time

MEASURES

Video Game Play

- All of the adolescents were asked to report their frequency of playing video games on a typical day. The response scale ranged from 1 = *none* to 6 = *4 or more hours*. Because this variable was skewed, it was trichotomized such that 0 = *none*, 1 = *up to 1 hour*, and 2 = *2 hours or more*.
- Participants also were asked if they usually play video games alone or with others.

MEASURES

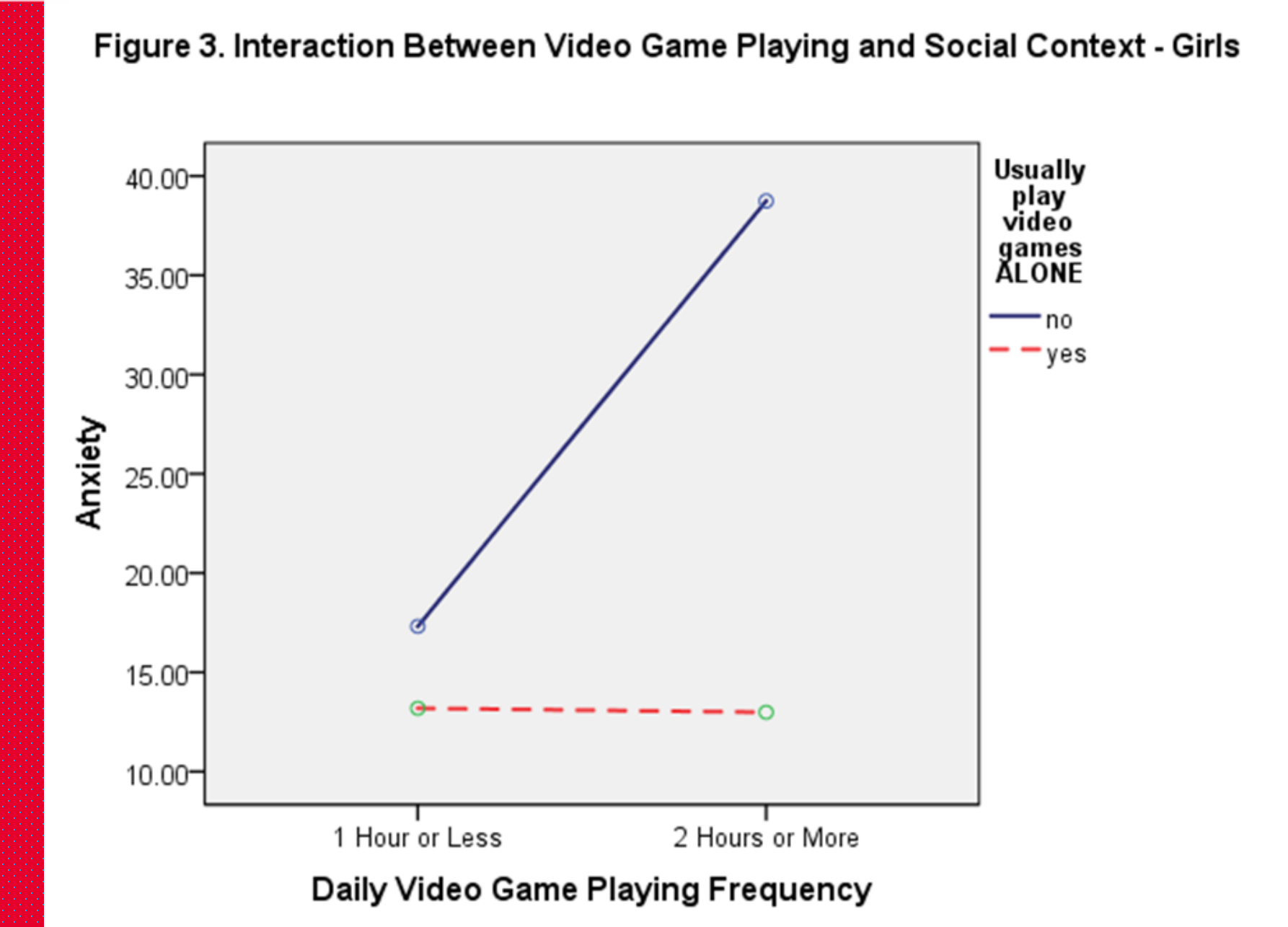
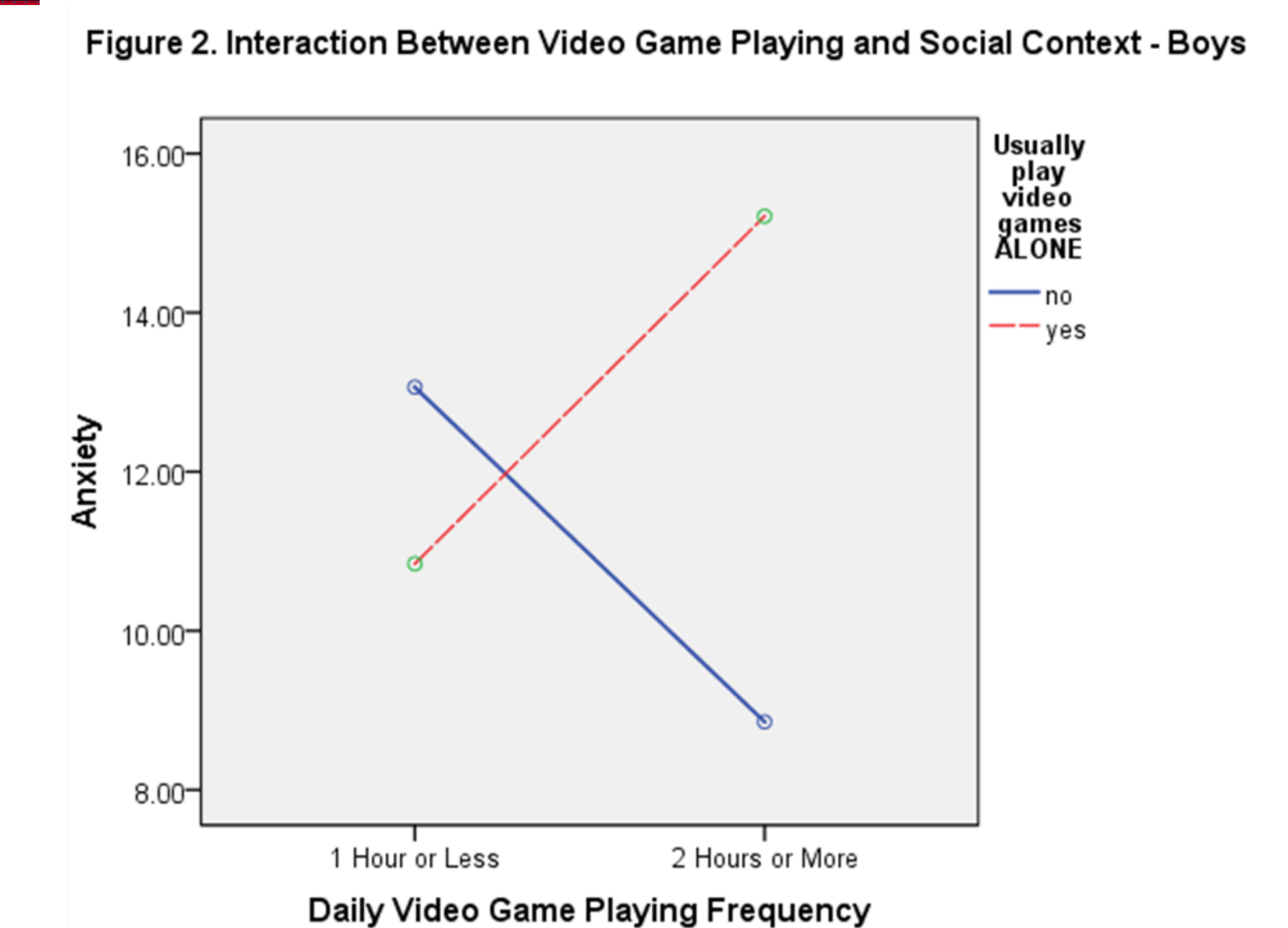
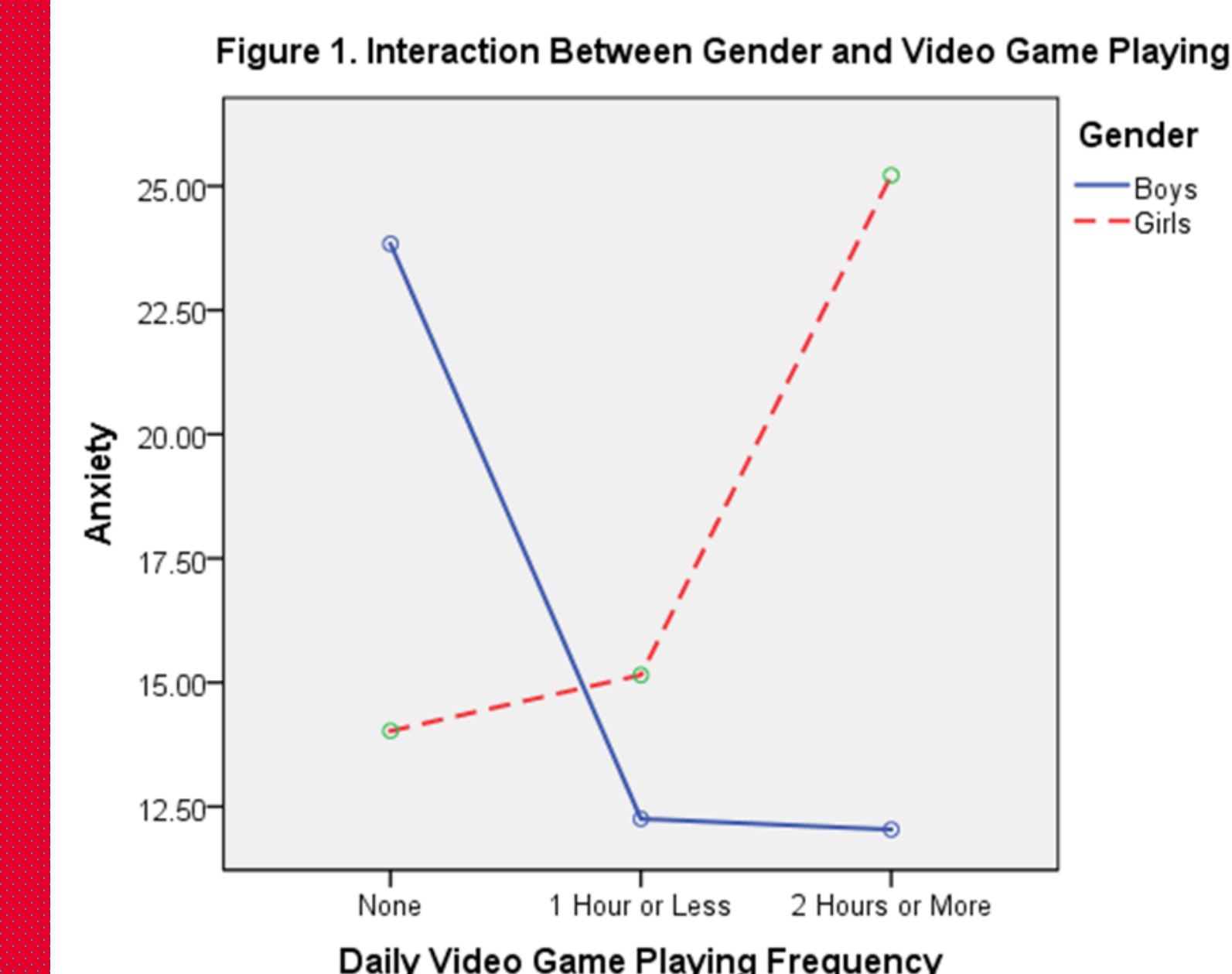
Anxiety Symptomatology

- The participants also were administered the 41-item Screen for Child Anxiety Related Disorders (Birmaher et al., 1995; $\alpha=.94$) to assess their anxiety symptoms. SCARED items were completed in reference to the past three months. A sample item is "I am nervous." The SCARED response scale ranges from 0 = *not true or hardly ever true* to 2 = *very true or often true*. Prior research has shown that the SCARED possesses good psychometric properties (Birmaher et al., 1997; Muris, Merckelbach, Ollendick, King, & Bogie, 2002).

RESULTS

- A Factorial ANOVA was conducted to examine the longitudinal relationship between playing video games (at Time 1) and anxiety symptomatology (at Time 2). The design factors were gender and video game play. Anxiety symptomatology at baseline was included as a covariate. The model was significant, $F(12, 159)=7.70, p<.001$. A two-way interaction was found between gender and playing video games, $F(2, 159)=8.38, p<.001$. As shown in Figure 1, girls who played video games the most had the highest levels of anxiety, whereas boys who played video games the most had the lowest levels of anxiety.
- A separate ANOVA model was conducted including only individuals who played video games. The model was significant, $F(8, 105) = 8.10, p<.001$. In addition to the significant interaction found in the prior model, a two-way interaction was found between gender and social context, $F(1, 105)=10.70, p<.01$, with girls who played with others reporting the highest levels of anxiety and boys who played with others reporting the lowest levels of anxiety. A three-way interaction between gender, frequency of playing video games, and social context also was observed, $F(1, 105)=8.75, p<.01$. This interaction indicated that girls who played video games the most, and played with others, had the highest levels of anxiety, whereas boys who played video games the most, and played with others, had the lowest levels of anxiety (see Figures 2 and 3).

RESULTS



CONCLUSIONS

- Findings from this study highlight the importance of considering gender and the context of play when examining the potential risks and benefits of playing video games during adolescence.
- Results indicate that playing video games may have positive effects and negative effects.
- Playing video games acted as a protective factor for boys, but not for girls.
- Future research should systematically examine underlying mechanisms that may be involved in the relationship between playing video games and adolescent psychological adjustment.

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