

The Differential Relationship Between Video Game Play and Anxiety During Adolescence: An Examination of Gender and Context

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ABSTRACT

Research has shown that playing video games may be associated with negative outcomes (e.g., aggression, physical inactivity, poor academic performance). The positive effects of playing video games have been relatively overlooked. However, some research focusing on middle adolescence has suggested that playing video games may be associated with lower levels of anxiety symptomatology. The goal of this study was to examine whether this relationship holds during late adolescence as well. Additional goals were to explore whether gender and playing alone (versus with others) moderate this relationship. Consistent with prior research on younger adolescents, boys who played video games most frequently had the lowest levels of anxiety, especially if they played with others. In contrast, girls who played video games most frequently, and who played with others, had the highest levels of anxiety. These findings underscore the importance of considering gender and context when examining the relationship between playing video games and psychological adjustment during adolescence.

SAMPLE AND PROCEDURE

- The sample included 172 11th and 12th grade students (51% girls; 57% 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 (Time 1) and 2009 (Time 2) by trained research staff
- The survey took approximately 40 minutes to complete
- Participants were given a movie pass as compensation for their time



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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* (this variable was trichotomized).
- They also were asked if they usually play video games alone or with others.

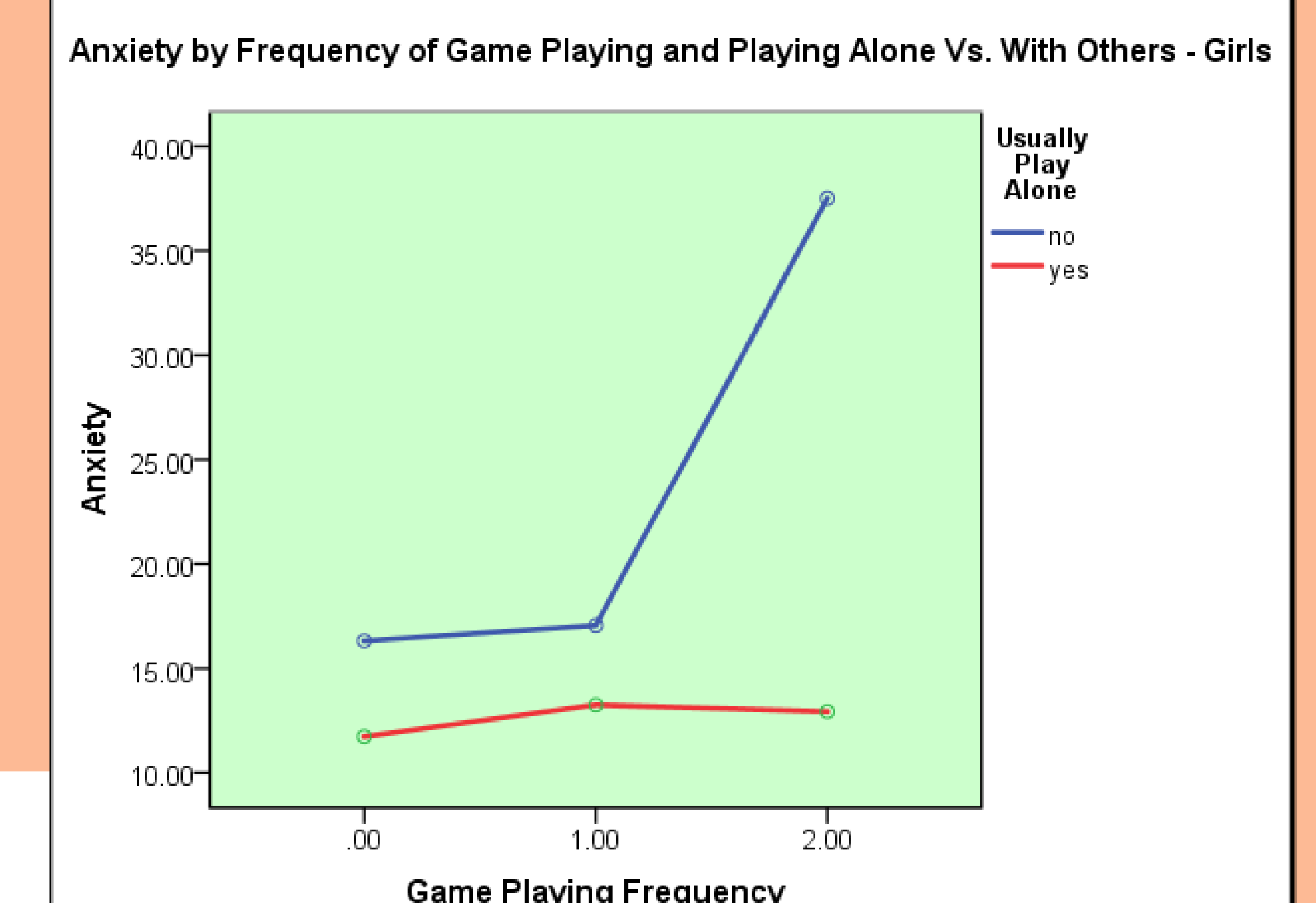
Anxiety Symptomatology

- The adolescents also completed the 41-item Screen for Child Anxiety Related Disorders (Birmaher et al., 1995; $\alpha=.94$). SCARED items were completed in reference to the past three months. A sample item is "I am nervous." The 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).

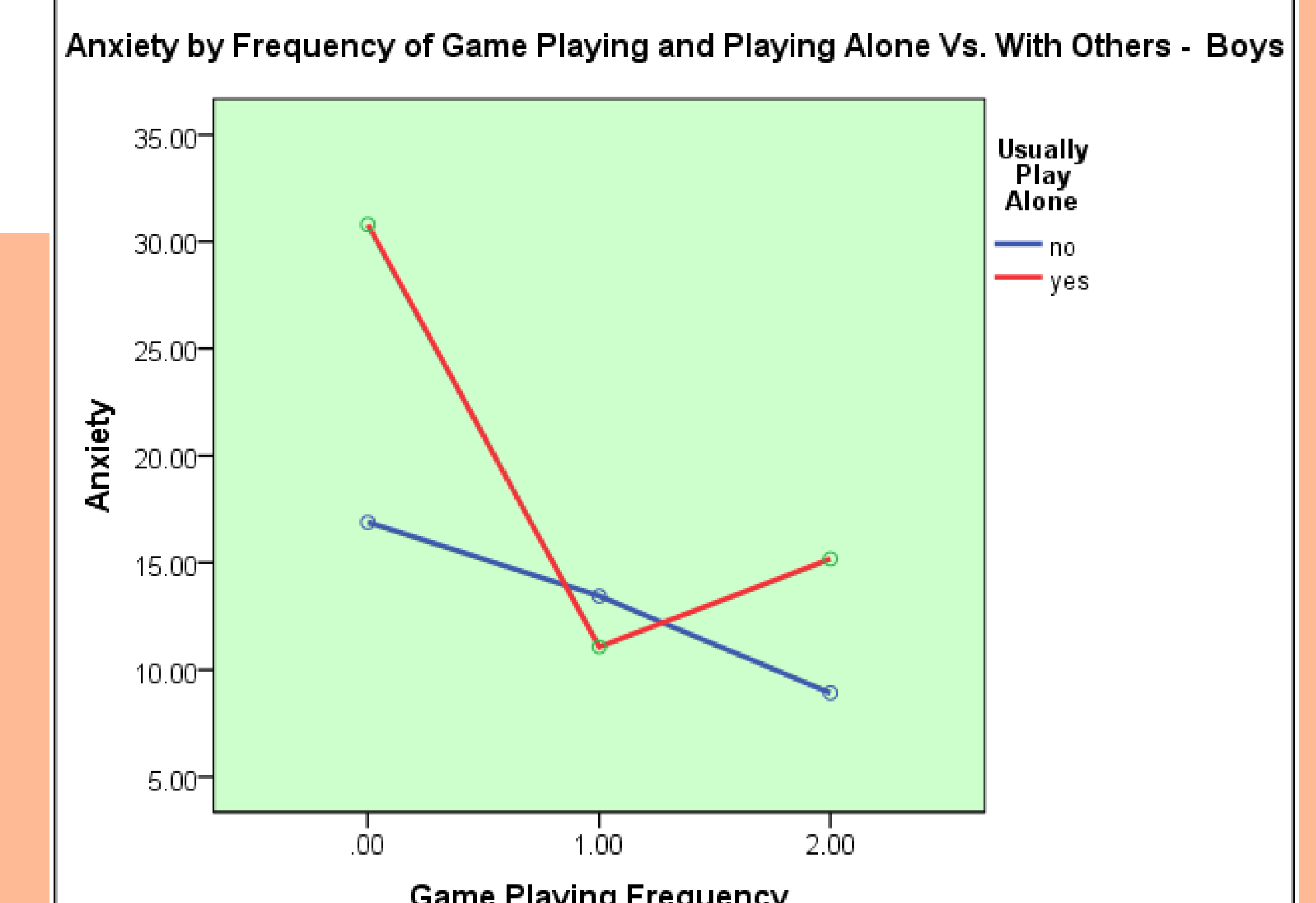
RESULTS

- 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, video game play, and playing alone (versus with others). 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, $F(2, 159)=8.38, p<.001$. This interaction indicated that 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 two-way interaction was observed between gender and playing alone, $F(1, 159)=15.80, p<.001$, with girls who played with others reporting the highest levels of anxiety and girls who played alone reporting the lowest levels of anxiety.
- A three-way interaction between gender, playing video games, and playing alone was found, $F(2, 159)=4.89, p<.01$. 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 1 and 2).

RESULTS



Figures 1 and 2
Interaction Between
Frequency of Playing
Video Games, Gender,
and Playing Alone vs.
with Others



CONCLUSIONS

- Results from this study underscore the importance of considering gender and the context of play when examining the potential risks and benefits of playing video games during adolescence.
- Findings suggest that playing video games may have positive effects, as well as negative effects.
- Playing video games acted as a protective factor for boys, but not for girls. Future research should examine underlying mechanisms (e.g., differential coping mechanisms, social relationships) that might account for this gender difference.