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Original article

Game On. . . Girls: Associations Between Co-playing Video Games and Adolescent Behavioral and Family Outcomes

Sarah M. Coyne, Ph.D.*, Laura M. Padilla-Walker, Ph.D., Laura Stockdale, and Randal D. Day, Ph.D.

School of Family Life, Brigham Young University, Provo, Utah

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A B S T R A C T

Purpose: Video game use has been associated with several behavioral and health outcomes for adolescents. The aim of the current study was to assess the relationship between parental co-play of video games and behavioral and family outcomes.
Method: Participants consisted of 287 adolescents and their parents who completed a number of video game-, behavioral-, and family-related questionnaires as part of a wider study. Most constructs included child, mother, and father reports.
Results: At the bivariate level, time spent playing video games was associated with several negative outcomes, including heightened internalizing and aggressive behavior and lowered prosocial behavior. However, co-playing video games with parents was associated with decreased levels of internalizing and aggressive behaviors, and heightened prosocial behavior for girls only. Co-playing video games was also marginally related to parent–child connectedness for girls, even after controlling for age-inappropriate games played with parents.
Conclusions: This is the first study to show positive associations for co-playing video games between girls and their parents.

Adolescents are said to live in a "media saturated world," spending more time with the media than they do in school [1]. Video games represent one type of media that is becoming increasingly popular among adolescents. A recent study by the Kaiser Family Foundation [1] found that adolescents reported playing video games for about an hour each day, a rate that has nearly tripled over the last decade. On the whole, boys reported playing more video games than girls. The study also found that although many adolescents reported playing age-appropriate, relatively violent-free games, about half the sample (and 70% of boy gamers) reported playing violent and controversial games (e.g., Grand Theft Auto), at least occasionally. This confirms a growing body of research that shows that boys generally play age-inappropriate video games more often and more intensely than girls [2,3].

Much research has shown that playing video games can be problematic for some youth. For example, Anderson et al [4] found that children who spent more time playing video games achieved lower grades over the course of the school year as compared with their peers who played less frequently. These children also showed more aggressive impulses and were more likely to infer hostile intent when none existed. This in turn was related to heightened levels of aggressive behavior. Other research has found that adolescents who were "addicted" to video games showed a variety of psychosocial and health problems [5].

Given these effects, it is not surprising that parents are most concerned with games interfering with schoolwork, social skills, and exercise [6]. Parents are also concerned with violent content in video games, but less so than the actual time spent by the adolescent in playing them. Accordingly, parents deal with video games in a variety of ways. There are generally three mediation

* Address correspondence to: Sarah M. Coyne, Ph.D., School of Family Life, Brigham Young University, JFSB 2087, Provo, UT 84602.
E-mail address: smcoyne@byu.edu

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strategies that parents use for video game play. Restrictive mediation is the most common strategy, and it involves parents placing rigid guidelines and rules on video game use and content [6,7]. Active mediation involves asking children questions about questionable content of video games. Generally, parents who use these first two types of mediation strategies are more worried about the negative effects of video games [8]. Finally, co-viewing or co-playing, involves parents playing the video games with their child.

The American Academy of Pediatrics Council on Communications and Media has suggested that co-viewing is one way by which parents can decrease negative media effects on their children [9]. However, there have been mixed results regarding the successfulness of co-playing (and co-viewing) as a parental mediation strategy. Some research has found positive effects of co-viewing. For example, co-viewing with parents enhanced learning strategies among preschool children [10] and co-viewing scary movies with an older sibling decreased fear responses [11]. However, Nathanson [12,13] found that there are often unintended effects of co-viewing television with children. While co-viewing, children may assume that parents condone what the child is viewing, even endorsing the negative content viewed.

Although several studies have examined co-viewing in a television context, to our knowledge, research has not examined the effects of co-playing video games. In fact, our literature search only revealed two studies that had explicitly focused on co-playing as a parental mediation strategy, both of which focused on predictors of co-playing as opposed to outcomes. It seems that parents who play video games with their children have different motives as compared with parents who use other mediation strategies. Nikken et al [7, 8] have found that parents who co-play are more likely to expect positive social and emotional effects of gaming for their children and are more likely to enjoy playing video games themselves. Whether or not co-playing actually results in any positive outcome for children is yet to be revealed. Co-playing is arguably more active than co-viewing, as parents must actively take part in the video game play. Co-viewing requires almost no parental effort, whereas co-playing of video games requires knowledge of the game, a certain skill level, and may represent the active efforts of the parent to become engaged and involved. This may send the message that parents want to be involved with their adolescent's activities and may increase feelings of connectedness between the adolescent and parent. By contrast, co-playing may enhance negative effects of playing video games because parents may inadvertently endorse both the time spent by the adolescent in playing and the content they are exposed to during co-play [12,13]. Thus, the current study will examine potential positive and negative outcomes of co-playing video games during adolescence. The following hypotheses will guide the study:

- H1: Given the active nature of co-playing, we predict that higher levels of co-playing (particularly age-appropriate games) will be associated with higher levels of family connectedness.
- H2: We expect that co-playing age-appropriate video games will either be unrelated or negatively related to aggression, delinquency, and internalizing behavior, and positively related to prosocial behavior. Conversely, co-playing age-inappropriate video games may augment negative effects of playing, leading to increased aggression, delinquency, internalizing behavior, and decreased levels of prosocial behavior.

Methods

Participants and procedures

The participants for this study were recruited from the Flourishing Families Project. The project is an ongoing study of inner family life, and the current sample involved families with a child between the ages of 11 and 16 years (mean age of the child = 13.26, SD = 1.05). Participants for the Flourishing Families Project were randomly selected from a large northwestern city based on whether they had a child between the ages of 11 and 14 years in the home. Families were interviewed in their homes, with each interview consisting of a video task (not reported here) and questionnaires completed by the child, mother, and father, which included numerous questions about family processes and adolescent behaviors. Our overall response rate of eligible families was 61% (for more information on the procedures see [14]).

Participants included 287 families (106 single parent and 190 two-parent, 65% male adolescents) who were selected from a larger sample (N = 465). Families were selected for the current study only if the adolescent child reported playing video games. Regarding ethnicity, 67% of families were European American, 12% were African American, and 21% were multiethnic. In all, 39% of fathers and 34% of mothers reported having at least a bachelor's degree. Moreover, 96% of fathers and 63% of mothers reported being currently married (never divorced). Among the rest, 10% of mothers were single parents, never married; 3% were separated; 15% were divorced; 5% were cohabiting; and 2% were widowed.

Measures

Controls. To assess the age-inappropriateness of the games being played, adolescents responded to one item asking what games they typically played with their parents. These games were then coded as 0 (age-appropriate; games with ratings of T or below) or 1 (age-inappropriate; games rated M). To assess the overall time spent on playing video games, adolescents responded to one item asking how many hours they spend in a typical day playing video games. Response categories ranged from 1 (none) to 9 (more than 8 hours).

Co-playing

Adolescents responded to one item asking how they used media or technology to connect with their parents ("How often do you play video games with your parent?") on a scale ranging from 1 (never) to 6 (more than once a day). This item was based on research by Nikken et al [7,8], although the scale has been expanded from its original form.

Internalizing and delinquency

Internalizing behaviors and delinquency were measured with items assessing depression/anxiety (13 items) and delinquency (nine items), which have shown adequate validity and reliability