Super Mario brothers and sisters: Associations between coplaying video games and sibling conflict and affection

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ARTICLE INFO

ABSTRACT

Video games can be played in many different contexts. This study examined associations between coplaying video games between siblings and levels of affection and conflict in the relationship. Participants were 508 adolescents (M age = 16.31 years of age, SD = 1.08) who completed questionnaires on video game use and sibling relationships. Participants were recruited from a large Northwestern city and a moderate city in the Mountain West of the United States. Video games played between siblings were coded by an independent sample to assess levels of physical aggression and prosocial behavior in each game. Playing video games with a sibling was associated with higher levels of sibling affection for both boys and girls, but higher levels of conflict for boys only. Playing a violent video game with a brother was associated with lower levels of conflict in the sibling relationship, whereas playing a prosocial video game was not related to any sibling outcome. The value of video games in sibling relationships will be discussed, with a focus on the type of game and the sex of the adolescent.

Though many studies have examined the effect of playing video games on various outcomes, (e.g.,Anderson et al., 2010; Gentile, Lynch, Linder, & Walsh, 2004; Silvern & Williamson, 1987), almost no research has examined video game play in a sibling context. Given that children and adolescents spend copious amounts of time with their siblings (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996; McHale & Crouter, 1996) and siblings do play video games together (Verhoff, 2014) it is surprising that almost nothing is known of the effects of playing video games on sibling relationships. Accordingly, the current study will examine these associations in a moderate size sample of adolescents.

The role of siblings

For the vast majority of individuals, their sibling relationships extend from the earliest to the oldest of ages (McHale, Updegraff, & Whiteman, 2012), making the sibling relationship the most enduring relationship across the lifespan (Cicirelli, 1995). Not only are sibling relationships pervasive, but siblings tend to spend large amounts of time together through adolescence, with some reports suggesting that siblings may spend more time with each other than they do with

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friends or parents (Larson et al., 1996; McHale & Crouter, 1996). During time spent together, siblings and their relationships with one another become both cause and consequence of development.

In particular, sibling relationships have implications for behavior, health, and wellbeing. For example, when siblings share a warm and fulfilling relationship, younger siblings may be inclined to model their own behavior after that of their older sibling which may be associated with lower levels of adolescent delinquency (Buist, 2010; Fagan & Najman, 2003) and substance use (Whiteman, Jensen, & Maggs, 2013; Whiteman, Jensen, & Maggs, 2014). Sibling warmth and modeling may also play a role in positive development as sibling warmth has been linked with sympathy (Tucker, Updegraff, McHale, & Crouter, 1999) and self-regulation (Padilla-Walker, Harper, & Jensen, 2010). Beyond sibling warmth, sibling conflict and aggression also have implications for youths' development. Recent work suggests that most individuals with siblings report frequent involvement in sibling aggression (Caspi, 2012; Skinner & Kowalski, 2013; Tucker, Finkelhor, Shattuck, & Turner, 2013) and involvement in such aggression has negative consequences for psychological and mental health as well as anti-social behavior (Finkelhor, Turner, & Ormrod, 2006; Salmon & Hehman, 2014; Tucker, Finkelhor, Turner, & Shattuck, 2013).

Theory of dimensions of video games

Gentile (2011) identifies five dimensions of the effects of video games to consider when studying any outcomes of video game play. The purpose of identifying these dimensions of video games is to illustrate that when attempting to determine the effects of video game use, focusing on one aspect may result in an incomplete understanding of the matter. Rather, considering multiple dimensions of video game play will allow for a broader understanding of the influential nature of playing video games. One dimension of importance is the *amount of game play.* For example, regardless of content, overall time spent playing video games is generally related to poorer school performance (Gentile, 2011). Another dimension is the *content* of game play. Research shows that the effects of playing certain content generally show specific effects to that content. For example, playing violent games is associated with increased aggression (Anderson et al., 2010), and playing prosocial games is linked with heightened prosocial behavior (Greitemeyer & Mügge, 2014). *Game structure* refers to how the formal features of the game influence behavior. For example, when players use a two-dimensional (2D) screen to navigate through a three-dimensional (3D) world, their transfer skills are increased (Greenfield, Brannon, & Lohr, 1994). *Game mechanics* involves the logistics of devices and examines how the games are played, for example, suggesting that more true-to-life actions (i.e., using a steering wheel and pedals to control a racing game versus a keyboard or joystick) are associated with non-virtual development. Finally, *game context* refers to both the context of the game (e.g., can the player change the rules) as well as the social context of the game (e.g., who the gamer was playing with). According to Gentile (2011) this is the least researched dimension of any of the game effects, however, it represents an important dimension as according to theory, context might moderate a number of effects of playing video games. In the current study, we examine sibling relationship as a *context* of video game play. It may be that video games may strengthen or weaken sibling relationships depending on a number of other video game dimensions, including *amount* and *content* of game.

Social contexts of video games

A number of studies have shown that playing video games can influence relationships, depending on the specific social context. The vast majority of video game research focuses on behavior with peers (e.g., Anderson et al., 2010; Bacigalupa, 2005), however, a number of peer contexts exist. For example, a number of studies have been conducted on the social context of Massively Multiplayer Online Role-Playing Games (MMPORGs). Research shows that social interactions in these games can be very complex, with individuals reporting strong friendships and emotional intimacy with other players (Cole & Griffiths, 2007; c.f. Dupuis & Ramsey, 2011). Video games may act as one social context to build, form, and strengthen relationships with others.

Apart from peers, there are a host of other social contexts to be understood. For example, a number of studies have examined effects when parents and children use video games together, also called *coplaying.* Collectively, these studies show that playing video games together strengthen parent/child relationships (e.g., Buswell, Zabriskie, Lundberg, & Hawkins, 2012) and result in positive outcomes for children including lower levels of internalizing behavior and aggression (Coyne, Padilla-Walker, Stockdale, & Day, 2011) and higher levels of social skills such as turn-taking and collaboration (Ulicsak & Cranmer, 2010). Importantly, research has shown that some of these positive effects are stronger when parents and children play age-appropriate games together (Coyne et al., 2011), highlighting the importance of examining content, as well as time and context.

Other research has found that the effect of playing video games may differ depending on whether the game is played alone or in a social group. Though much research shows that playing violent video games is associated with increased aggressive behavior, a number of studies have found that the effect is diminished when violent video games are played cooperatively with other players. Indeed, a few studies show that playing violent video games cooperatively not only reduces aggressive thoughts and behavior (Velez, Greitemeyer, Whitaker, Ewoldsen, & Bushman, in press; Velez, Mahood, Ewoldsen, & Moyer-Guse, 2014), but may increase empathy and prosocial behavior (e.g., Ewoldsen et al., 2012; Greitemeyer, 2013; Greitemeyer & Cox, 2013; Greitemeyer, Traut, Mattausch, & Osswald, 2012). These studies suggest that any media effects from playing the *content* of the game may be influenced by the *context* of the game.