Chapter 17
Playing with Violence:
An Updated Review on the Effects of Playing Violent Electronic Games

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ABSTRACT

This chapter intends to contribute to the clarification of the controversy surrounding the short-term effects of playing violent games [VG] on aggressive and prosocial behavior, aggressive thoughts, feelings, and physiological measures. An updated review of research on the effects of playing VG on the main variables under analysis is reviewed and some theoretical approaches, as well as methodological concerns, are addressed. Finally, questions that remain unanswered are discussed and future areas of research in this area are suggested.

INTRODUCTION

Electronic games are one of the most popular forms of entertainment, with sales that exceed those in both the film (Raessens, 2005) and the music industry (Reuters, 2007). There are several platforms (e.g., console, computer, interactive television, mobile), allowing different modalities and social environments for the gameplay activity.

Players can choose to either play alone or with others (face-to-face on the same computer, over a local area network [LAN], or over the internet), either off-line or online, and in cooperative or competitive mode. These differences may have distinct social impacts. For instance, playing online with real players from diverse locations across the world may enhance social networks. In addition to the *social* dimension, Gentile and co-authors (2009) emphasize the relevance of other game dimensions and their effects on players: *amount*

of time playing games (e.g., potential addiction, which can affect school/work performance; obesity; and development of social skills), *game content* (e.g., potential effects on either prosocial or anti-social behavior and on the development of cognitive skills), *game structure* (e.g., effects on visual attention skills and on memory), and the *mechanisms of gameplay* (e.g., effects on hand-eye coordination). These dimensions are intertwined, and the combination in which they occur can also affect players in distinct ways. Current discussions are consequently not on whether electronic games are good or bad for players, as the outcome depends on several moderating factors and the complex interactions among them.

In this paper we focus on electronic *game content* and specifically on the short-term effects of playing violent games (VG). The subject of media violence is not new and has contributed heavily to a variety of scientific and public debates over the last six decades. Conclusions are twofold: violence has been the most predominant content in media entertainment, such as television (Gunter, 2005) and electronic games (Smith, Lachlan, & Tamborini, 2003), and exposure to violence has negative effects on media viewers (Comstock, 2003) and video game players (Anderson, Gentile, & Buckley, 2007). The debates around this subject reflect the incongruity of the results and interpretations, mainly because the findings are neither obvious nor simple, and some questions remain unanswered. At one extreme the validity of some findings has been questioned by a number of scholars and the media industry (Ferguson, 2007a, 2007b). At the other extreme certain moral interpretations have obscured the understanding of the scientific findings, for instance the claim that VG are directly responsible for particular types of juvenile crime (e.g., school shootings) without taking into account the complexity of violence in our society (Lawrence & Birkland, 2004).

Theoretical Approaches

The General Learning Model (GLM) (Gentile, et al., 2009) holds that the way the individual develops and responds to the social world depends of situational and individual factors. A number of hypotheses have been put forward in order to understand, explain, and predict how and why dispositional and situational variables interact to influence outcome variables such as prosocial or aggressive behaviors. For negative outcomes, such as aggression, it is relevant to draw on the General Aggression Model (GAM), which is the precursor of the GLM. This model integrates several theories of aggression (e.g., social learning theory, cognitive neoassociationism, excitation-transfer theory, script theory, and social information processing theories) and has been widely used to test predictions regarding both short and long-term effects of playing VG (Anderson & Carnagey, 2004). According to GAM, a single gameplay session can interact with individual factors and affect behavior, taking three possible internal routes: cognitive, affective, and arousal. The individual factors may be any variables that a person brings to the situation. These personal characteristics include personality traits, gender, scripts, beliefs, attitudes, values, and/or the person's long-term goals. The interaction between these individual factors and game playing affects behavior directly or indirectly, depending on the potential mediation of one or more internal state routes.

The GAM proposes that these routes are distinct and should accordingly be studied in different ways. Affective states are usually measured by self-report (e.g., state hostility/anger, anxiety) in which the respondents are asked to report how they feel during and/or after playing (Anderson & Carnagey, 2009; Anderson & Dill, 2000; Anderson & Ford, 1986; Anderson & Morrow, 1995; Arriaga, Esteves, Carneiro, & Monteiro, 2006, 2008; Ballard & Wiest, 1996; Barlett, Branch, Rodeheffer, & Harris, 2009; Barlett, Harris, & Baldassaro, 2007; Barlett, Harris, & Bruey, 2008;

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