

Psychology and Videogame Violence: A Ludo-Ontological Model

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INTRODUCTION

Over the past two decades, psychologists have put great effort on finding associations between videogames and violent behavior (see Dill & Dill 1999; Anderson & Bushman 2001; Gentile et al 2004; Bartholow et al 2005; Bartholow et al 2006; Carnagey et al 2007; Anderson et al 2010). While a large part of such research appears to fall under a strong publication bias (Ferguson 2007), perhaps even more intriguing is the fact that few of their famed results observe videogame consumption explicitly as a goal-driven play activity. The claim can be evidenced by the outstanding lack of references to one of the most influential violence-explaining theories in the psychology of aggression: frustration-aggression hypothesis. This is a likely consequence of the contemporary inclination to employ more modern theories, such the General Aggression Model (Bushman & Anderson 2002). The argument of this article is that the study of videogame-related aggression would benefit from revisiting (cf. Przybylski et al 2013) the old frustration-aggression hypothesis.

In all simplicity, the frustration-aggression hypothesis—coined by John Dollard et al (1939), improved by Neal Miller (1941), and revised by Leonard Berkowitz (1989)—goes as follows: aggression is mainly a consequence of frustration, and frustration is mainly a consequence of interfered expectation. In the original formulation, the notion of *goal* has a defining role: “interference with the occurrence of an instigated goal-response at its proper time in the behavior sequence is called a frustration” (Dollard et al 1939, 6). In other words, when people (or animals in general) strive to achieve a goal and the expectation of reaching the goal gets interfered, they get frustrated; and, ultimately, aggressive. The types of resulting aggression are naturally many: physical aggression, verbal aggression, suppressed aggression, and so on. If one is knowledgeable enough to recognize that most videogames are played as goal-driven activities, the

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frustration-aggression hypothesis becomes an effective tool for explaining the potential aggression that follows their usage.

The introduced premise as a point of departure, the article provides a preliminary hierarchical model for understanding videogame-related aggression. The model derives from a demand-based ontology of videogame play, i.e. a structural grouping of play activities that videogame players undertake. Four key groups are introduced below.

1. *Goal-driven PvP play* (expected high aggressive impact). Multiplayer environments with player-versus-player competition are likely the most prominent source of videogame-related aggression. Since players are, by definition, supposed to interfere with each other's goals, the generation of aggression is embedded in their challenge structure inherently. This explains a large part of the infamous verbal aggression (e.g. Kwak et al 2015) present in contemporary esports like Dota 2 and League of Legends. Players' esteemed goals are simply blocked by other players, which generates frustration, which generates aggression.
2. *Goal-driven PvE play* (expected aggressive impact). In goal-driven single-player videogames goal interference is present, but not as visibly as in competitive multiplayer play. While players' goals still get interfered (see Juul 2013), this happens by the obstacles set by the artifact, not co-players. In single-player videogames the failure to reach an expected goal is thus always one's own and cannot be displaced on co-playing substitute targets, which can be assumed to reduce the aggressive impact. Naturally, the variation of aggression generation is great between different titles and depends on several other design features (compare Dark Souls to Super Mario).
3. *Puzzle solving* (expected low aggressive impact). Puzzles are essentially different from most games due to their ontic peculiarity (e.g. Crawford 1984; Costikyan 2002; Karhulahti 2012). The act of solving puzzles does not involve goal interference per se unless time limits or other strategic elements are added. When solving puzzles like jigsaws, sudokus, or those in point-and-click adventure games such as Monkey Island, the player may simply be unable to reach the solution, but the goal still remains at reach; there are no game overs in puzzles (as defined by the referenced sources). Hence, while aggression may still occur as a result of frustration, it is assumed that the amount is relatively low due to the lack of goal interference.
4. *Non goal-driven play* (expected minimal aggressive impact). Some videogames such as Minecraft played on the creative mode provide no challenges related to survival or progress (see Leino 2010). No explicit goals are given to players; hence they are free to work on personally chosen projects that do not get interfered by other players or dynamic videogame components. Accordingly, while the play activity may still be goal-driven, the goals are not set and obstructed by the artifact. The expected amounts of aggression generated by such videogames are thus minimal.

Obviously, the four groupings are preliminary. Many videogames in the contemporary market combine their elements, for which the groups do not (try to) represent the total multiplicity of gaming. Rather, they stand as a model of selected elements the future

clinical testing of which might yield results that help us understand videogame-related aggression better. Whether such testing will be successful or not, the model stands as modifiable tool for those who approach videogame-related aggression not as a consequence of the artifacts themselves, but as an outcome of diverse factors that are part of videogames (and other life activities).

Lastly, with respect to the early psychological criticism on the frustration-aggression hypothesis, it is worth stressing that the idea is not to claim that all (videogame-related) aggression derives from the frustration of goal interference. Frustration produced by goal interference is a major but not the only contributor to (videogame-related) aggression. It would be interesting to see other ontological models that rely on structural videogame elements tackling the issue from alternative perspectives.

OPTIONAL BIO

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BIBLIOGRAPHY

- Anderson, C. A., & Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological science*, 12 (5), 353–359.
- Anderson, C. A., Shibuya, A., Ihori, N., Swing, E. L., Bushman, B. J., Sakamoto, A. & Saleem, M. (2010). Violent video game effects on aggression, empathy, and prosocial behavior in eastern and western countries: a meta-analytic review. *Psychological Bulletin*, 136 (2), 151-173.
- Bartholow, B. D., Sestir, M. A., & Davis, E. B. (2005). Correlates and consequences of exposure to video game violence: Hostile personality, empathy, and aggressive behavior. *Personality and Social Psychology Bulletin*, 31 (11), 1573-1586.
- Bartholow, B.D., Bushman, B.J., & Sestir, M.A. (2006). Chronic violent video game exposure and desensitization to violence: Behavioral and event-related brain potential data. *Journal of Experimental Social Psychology*, 42, 532–539.
- Berkowitz, L. (1989). Frustration-aggression hypothesis: examination and reformulation. *Psychological bulletin*, 106 (1), 59.
- Bushman, B., & Anderson, C. (2002). Violent video games and hostile expectations: A test of the General Aggression Model. *Personality and Social Psychology Bulletin*, 28, 1679–1686.
- Carnagey, N. L., Anderson, C. A., & Bushman, B. J. (2007). The effect of video game violence on physiological desensitization to real-life violence. *Journal of experimental social psychology*, 43(3), 489-496.
- Costikyan, G. (2002) "I Have No Words & I Must Design: Toward a Critical Vocabulary for Games." In F. Mäyrä (Ed.) *CGDC Conference Proceedings '02*, 9–33. Tampere: Tampere University Press.
- Crawford, C. (1984/1997) *The Art of Computer Game Design*. Electronic version. New York: McGraw-Hill.
- Dill, K. E., & Dill, J. C. (1999). Video game violence: A review of the empirical literature. *Aggression and violent behavior*, 3(4), 407-428.

- Dollard, J., Doob, L., Miller, N., Mowrer, O., & Sears, R. (1939). *Frustration and aggression*. New Haven, CT: Yale University Press.
- Ferguson, C. J. (2007). Evidence for publication bias in video game violence effects literature: A meta-analytic review. *Aggression and violent behavior*, 12 (4), 470-482.
- Gentile, D. A., Lynch, P. J., Linder, J. R., & Walsh, D. A. (2004). The effects of violent video game habits on adolescent hostility, aggressive behaviors, and school performance. *Journal of adolescence*, 27 (1), 5-22.
- Juul, J. (2013). *The Art of Failure*. MIT press.
- Kwak, H., Blackburn, J., & Han, S. (2015). Exploring cyberbullying and other toxic behavior in team competition online games. In *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, 3739-3748. ACM.
- Leino, O. (2010) *Emotions in Play: On the Constitution of Emotion in Solitary Computer Game Play*. Doctoral Dissertation. IT University of Copenhagen.
- Miller N. E. (1941). The frustration-aggression hypothesis. *Psychological Review*, 48, 337-342.
- Przybylski, A. K., Deci, E. L., Rigby, C. S., & Ryan, R. M. (2014). Competence-impeding electronic games and players' aggressive feelings, thoughts, and behaviors. *Journal of personality and social psychology*, 106 (3), 441-457.