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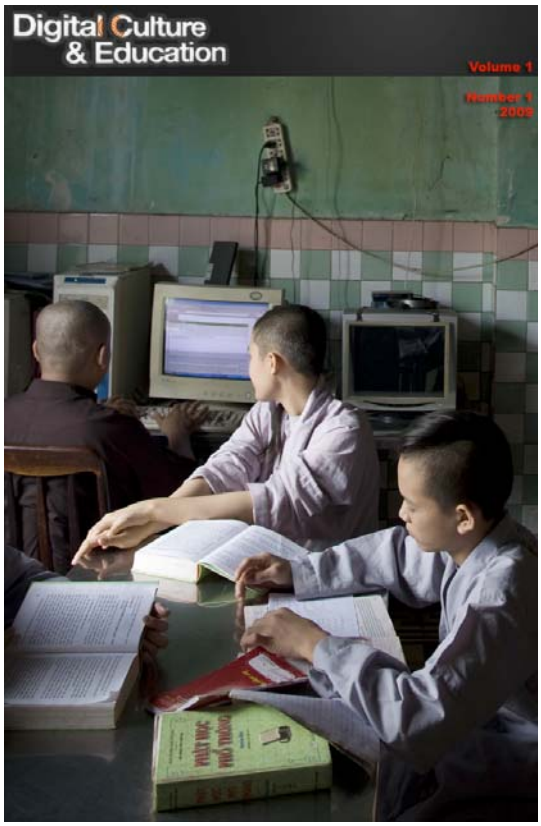

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Revisiting violent videogames research: Game Studies perspectives on aggression, violence, immersion, interaction, and textual analysis

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Revisiting violent videogames research: Game Studies perspectives on aggression, violence, immersion, interaction, and textual analysis

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Abstract

Thus far, the bulk of effects research on violent video games demonstrates troubling correlations between playing violent video games and increases in (or primers for) aggressive behavior, which suggests that overall, violent video games may be detrimental to society. However, there may be significant weaknesses in this body of research, concerning not only methodological issues such as study design and the ways in which 'aggression' or 'violence' are conceptualized, but also containing fundamental misunderstandings of games as text, apparatus, or cultural artifact. Because these studies may not have a sophisticated enough understanding of games as objects or gaming as an activity, we must therefore reconsider the conclusions and implications thus far arrived at in this research and look for new ways forward for assessing violence in/and video games.

Keywords

Aggression, digital games, game studies, media effects, video games, violence

Introduction

Although there has been a great deal of social anxiety about video games (hereafter digital games) since the arcades of the 1970s, it was nearly twenty years later that violence in particular became a much publicized and studied aspect of the purported effects of digital games, particularly on impressionable and/or troubled youth. With the advent of First Person Shooters (FPS) like *Doom* (1993, id software), concerns over violence in digital games increased throughout the 1990s, which prompted several Congressional investigations in the United States (cf Staten, 1994; Silver, 1994) and reaching a fever pitch in 1999 as a result of the school shootings at Columbine high school in Littleton, Colorado. This prompted President Clinton to issue an Executive Order for the Federal Trade Commission to investigate the gaming industry's practices and to suggest reforms, albeit reforms focused mainly on access, distribution and marketing with respect to adolescents and young teens, rather than to curb content (Federal Trade Commission 2000; 2002). Discussions concerning violence in digital games in the last decade have featured references to numerous studies that have been conducted on both long term and short term effects of violent digital games. Overall, this research has produced troubling correlations between playing violent games and increases in aggressive behavior, which suggests that overall, violent digital games may be a contributing factor in undesirable social trends concerning not only violence among youth but also the pos-

sibility of desensitization to violence; at the very least, so the argument goes, violent digital games may serve as an enhancer or primer for individuals to engage in violence. However, there may be significant weaknesses in this body of research, concerning not only methodological issues such as study design and the ways in which 'aggression' or 'violence' are conceptualized, but also the lack of any thorough treatment of the theoretical considerations (including internecine debates) brought to bear by the emerging body of game studies scholarship. In short, effects scholars may not have a sophisticated enough understanding of the objects of their study, the result of which may be that some of their conclusions (and/or methods) could have crucial shortcomings or in extreme cases even fundamental errors. This paper critiques aspects of this literature by pointing out problems with some basic assumptions of most of the research, methodological and theoretical problems, and ways of approaching future research. I argue that sufficiently sophisticated means of approaching games as objects of study have not been fully developed within the body of effects research on digital games, and therefore we must reconsider the conclusions and implications thus far arrived at in this research and look for new ways forward for assessing violence in/and digital games.

Aggressive publication: Violent digital games effects studies and their discontents

Generally speaking, studies on violence in the media have been a critical research concern for some time. Starting in the 1960s, numerous studies in the United States (particularly the landmark, voluminous *Mass Media and Violence* [1969]) were conducted that built up a significant body of research, which over time came to a few basic conclusions regarding mass media effects:

> 1) the greater the exposure to violent media, the more likely someone will be to engage in violent or aggressive behavior;
>
> 2) there is a significant correlation between those most likely to be influenced by media and socio-economic status;
>
> 3) media effects are not direct, and must be contextualized according to various other environmental and cognitive factors (see Lowery & DeFleur, 1995).

Building on this tradition and other approaches based out of psychology and pediatrics research, studies on violent games typically have drawn on a few main psychological theories. These include social learning theory (Schutte et al, 1998; Wiegman & Van Schie, 1988), which states that people will emulate behavior they have seen, particularly if it results in desired outcomes; arousal theory (Ballard & Wiest, 1996; Winkel, Novak & Hopson, 1987), which states that when people are exposed to stimuli that excite them, this excitement may have an influence on subsequent behavior; cognitive map theory, which states (qua Malliet & De Meyer, 2006) that 'players will judge a subsequent situation with different emotions (e.g. fear, caution) or cognitions (e.g. competition) than

nonplayers, and will act accordingly' (cf. Chory-Asrad & Mastro, 2000). Though some of this work is qualitative and evaluative, the bulk of research here is quantitative and experimental, whereby in the typical study subjects play games in laboratory conditions and are given physical and /or psychological tests to measure aggression. Broadly speaking, the research indicates that playing violent video games tends to increase aggression levels in subjects, at least in the short term. Long term effects are much harder to prove, particularly given the incredible complexity of variables that may influence behavior. Nonetheless some researchers claim that overall the research indicates that the effects of playing violent digital games are highly correlated with a host of aggressive behaviors and affects, and that the size of this effect is greater even than actionable public health risks such as second hand smoke (Anderson, 2003). Other researchers, however, are not nearly as confident in these results.

First of all, there is some question as to whether either 'aggression' or 'violence' as concepts have been properly theorized—such as what semiotic or ludic elements are 'violent' and to what extent aggression models refer to or measure precisely the same phenomena across all studies (indeed, even within studies). Ferguson (2007a: 480) for example argues that most of the research 'employs unvalidated ad-hoc measures of 'aggression'', which may result not only in skewed results for meta-analyses, but also in a measurement bias of affect—that is, that some other intense responses may be counted as 'aggressive' which may or may not reflect actual aggression. Sherry (2001) similarly argues that not only are there differences in the ways in which 'aggression' is measured and/or conceptualized, but also that different studies have used different types of 'violent' games, so making comparisons of 'aggressive' outcomes is difficult and problematic. Further, Ferguson (2007b: 313) claims that once publication bias in favor of significant findings in this research is accounted for (see Ferguson 2007a), a corrected meta-analysis reveals that 'the relationship between violent video game exposure and aggression drops to $r+ = 0.04$ with a confidence interval that crosses zero', meaning that there is no correlation between violent digital games and aggressive behavior across studies. Even assuming correlations have been calculated properly, however, it is still problematic to assert that this translates into causality, and indeed these correlations could instead demonstrate, as Jenkins (2004) argues, that, 'the research could simply show that aggressive people like aggressive entertainment'. One possibility, therefore, is that a subject who is more aggressive after playing violent video games may be exhibiting a symptom of pre-existing aggressive tendencies that were primed by the game, rather than aggression which the game has brought into being (an effect which may actually be well supported by existing effects research—see Gentile, et al's [2003] summary).

In most studies there also does not appear to be any parsing concerning what sort of aggression is being measured with respect to subjects' cognitive understanding of this behavior and how (or whether) they seek outlets for this aggression that are consistently anti-social. For example, presumably the makers of *America's Army* (2002, U.S. Army), which is a combat-oriented FPS produced by the U.S. Army, *want* the players of their game to exhibit some aggressive qualities, since they are using the game as an overt recruitment tool, as well as subsequently utilize roughly the same sort of simulation to actually train their

troops. Here it may be in the Army's interest to be able to sort 'aggression' of the sort they are looking for that may produce success on the battlefield, versus the sort of 'aggression' that may trigger in some individuals the sort of anti-social behavior that may result in fragging, war crimes, or acts of violence in non-combat or even civilian life, particularly if such differences are correlated with different types of people, so that they know what to watch for. (Whether the general public should be playing games that successfully train soldiers is of course another issue.) Although Anderson and Bushman (2002) for example seem to have successfully demonstrated that violent games serve as a priming effect for aggressive behavior, there is little indication that this is the same between 'normal' versus clinically defined anti-social personalities—which is precisely the sort of determination that is needed in order to make causal links between violent media and, say, school shootings, a subject that gets frequent mention among studies that find positive correlations between violent games and aggression. There are also social differentiations in aggression as measured affect: one might be more aggressive playing with or in proximity to one's friends, since aggression cues (and the sense that one can express them more freely) may not translate into 'real' hostility. Further, the aggression that is measured in laboratory settings is commonly assumed to be the same type of aggression that some subjects exhibit in other social settings—which may or may not be the case. In other words, assuming even that there are no fatal flaws in or differentiations between models of 'aggression', surely certain kinds of aggressive behavior are not anti-social per se, and may in fact be beneficial in certain situations—in other words there are differences between 'dangerous' aggression and benign or even useful forms of aggression. The research, however, is entirely oriented toward a paradigm that holds aggression to always be undesirable and always linked with unwarranted violence.

Violence is conceptually and practically far less fraught with the need for parsing: where acting 'aggressively' may be utilized toward a variety of outcomes, there are few circumstances in which acting violently is desirable. However, surely there are different degrees or metrics of violence, if not as an outcome than as an input variable—an ontological and epistemological framework largely absent from the literature. For instance, in a combat simulator is it more 'violent' to kill a multitude of figures, but in a sanitized way, or to kill relatively few figures, but with a high degree of gore and/or realism? Although this sort of debate is not necessarily something effects researchers need to spend time hashing out, their metrics here need to be more clearly stated so as to assess how 'violence' is coded or selected for, since there may be important distinctions here in how to analyze the data that they produce (more on this below). Indeed, in some studies, the 'violent' content or composition of games are not described at all (cf. Gentile, et al, 2003), leaving the reader to assume not only that the games in the sample are identical in their violence, and were played in such a way as to be equally violent between games and between players, but also that 'violent games' is an unproblematic category.

There are also an array of other criticisms of this research, beyond the ways in which 'aggression' or 'violence' are determined. For instance, there is a discomfiting lack of overlap, it would seem, between the violent games effects research and the effects research on other media that precedes it. To wit: the

overwhelming bulk of video games effects research is published in psychology, pediatrics, and general science publications; and in a cursory scan of citations, there are few if any links to media effects research that has been conducted in mass communications, media studies or cultural studies publications. This is not a mere matter of turf, of course—there is a troublesome lack of sharing (or even recognizing) the different theoretical and conceptual mechanisms in each body of research. As one example, mass communications researchers have established that portrayals of 'unauthorized' or 'illegitimate' violence (i.e., committed by criminals rather than authority figures, and/or not morally justified) tend to be negatively characterized in mass media and therefore place considerable moral weight on instances of violence (Felson, 1996), a finding that seems likely to translate to gaming. Presumably this sort of finding would be of interest to researchers who compare violence and aggression using a title that has sanctioned violence (e.g. *America's Army*) versus one that does (or may) not (e.g. Rockstar Game's *Grand Theft Auto* series). As another example, what do we make of the fact that the vast majority of violent games research relies on university students as test subjects? According to most cognitive psychology models this shouldn't necessarily make a difference when measuring affect and stimulus responses. However according to years of mass communications research, effects are often correlated with socio-economic status and education level (whether this is evidence of different cognitive functions between people with different life chances/status, or whether this therefore indicates not media effects per se but violence as a function of life chances/status, has been debated for years). Further, recent assessments of the latter body of research indicate that although violent media is likely to produce effects, and these effects are likely to be negative, we cannot be certain that violent media are more likely to promote aggressive or violent behavior than other kinds of media; as Sparks and Sparks (2002: 281) query: 'What might be the effects of exposure to media depictions of hate speech or to successful people or other images that foster frustration and jealousy...[or even rhetoric or images that promote 'legalized violence' like war or capital punishment]?'. Are we to conclude that social psychologists have finally found workable models for getting at the mechanisms of violent media effects that had so long eluded mass communications researchers, or are we to conclude that they have merely managed to quantify and 'laboratize', if you will, the fundamental weaknesses of media effects research in mass communications?

Another concern in this research is not merely the way in which 'violence' and 'aggression' have been established as metrics, but also that these studies are predicated on a series of unstated premises about these terms' social construction. Presumably the point of doing this research in the first place is to determine whether and to what extent games/gaming have detrimental effects with respect to anti-social behavior. In such studies, there is a thing called 'violence' at work in games, which is not merely the use of force (Mario after all squashes creatures and destroys property), but force that results in the maiming or death of simulated humans; usually, it is also force that is carried out with tools ostensibly designed specifically for this kind of destruction—one can kill just as effectively with a car, for instance, but racing games are not the sort of titles that get mention in such studies, much less Congressional panels. While

in certain respects this is a reasonable standard to apply to 'violence', there may be structural ways in which their ludic or textual presence might complicate matters (more of which below). The second part of this construction is 'aggression', a term which in aggregate (there are a few variations between studies in how this is conceptualized) refers to a heightened emotional and/or cognitive state whereby someone is more likely to commit 'violence' or act in 'aggressive' ways that are unwelcome (such as bullying or other forms of hostility). Although in certain respects 'aggression' is rendered in a fairly straightforward and common sense way, there still lies an assumption here about its appropriateness and application: heightened aggression is undesirable to the extent to which it predisposes in someone to, or directly results in, the application of anti-social behavior. At the output end of this equation, therefore, there is an implicit conflation of aggression with violence, since the application of the research is about the threat to society of more people who commit acts of violence in the more catholic sense of the term—the violation of another person. It is not the threat to society of more people who commit acts of aggressiveness which may be unwelcome but are not what is typically deemed anti-social. Here it may be that one could argue that the entire framework of 'aggressiveness' is part of a much larger asymmetrical discourse, where 'aggressive' children warrant a near moral panic, but aggressive bankers and venture capitalists (say) are under no such scrutiny. Certainly if we would wish to curtail 'aggression', then the aggressiveness that precipitates reckless and/or predatory financial decisions is worthy of our attention—is this not also anti-social behavior? In sum, the unstated assumptions about the social construction of violence and aggression as anti-social phenomena surely require further explication than the vast bulk of these studies currently provide.

Finally, one trait all of this research has in common, of course, is the lack of long term dire outcomes. In other words it may be useful here to ask (as some have) why, if indeed violence in video games yields dramatic effects, just like media violence research decades before it seemed to indicate about other media, this research has yet to correlate 'aggression' with actual (criminal) violent behavior—particularly considering the relative media saturation of youths today? After all, a recent survey indicated that nearly 40% of American adults play games on a console or computer (Associated Press 2006); further, roughly two-thirds (67.7%) of all men 18-34 had access to a console in their homes, and 80% of males aged 12-17 had home console access (Nielsen Media 2006)—a figure which does not factor PC games, and undoubtedly games have continued to see growth over the last three years. Although specific figures for genre are difficult to come by, combat-oriented and other types of 'violent' games continue to perform well on the market, particularly among males, who are statistically more likely to both play games and commit acts of violence. Given this dramatic rise in the saturation of violent games, then, one should expect a rise in violence statistics, which has not been the case (see Federal Bureau of Investigation 2006).

All of this would seem to indicate that to the extent that the above criticisms are valid, in the end not much seems to have been proven after all, but this is not necessarily the case. However flawed the particulars of aggression and violence metrics may be, there is clearly *something* going on when people

play ostensibly violent video games; which is to say, to the extent that they react at all, and under the right circumstances these reactions at least *seem* to be exhibitions of aggression, and this aggression seems to be largely undesirable, clearly it may be just as much of a jump to conclusions to say that the effects of playing violent video games are wholly benign or have a null effect. Really what is at the core of this dilemma, which is also in my opinion the fatal flaw of the vast majority of violent games research to date, is that these researchers do not fully understand digital games either as texts or as processes. That is to say, the coding of 'violence' has little or no bearing on the intriguing ways in which game studies scholars have conceptualized games: from ways to read games and gaming components, to how game playing—as play or play praxis—situates or configures the player, and whether and to what extent games may be deemed immersive or interactive. In short: violent games researchers have made a number of assumptions about games that game scholars have either problematized or rejected outright in the emergent field of game studies. What follows is an overview of this body of research as it pertains to the cognitive and practical aspects of gameplay.

Playing at research: Problems presented by Game Studies

To begin with, game scholars have long argued that games cannot be treated the same as other media, for a host of reasons. First of all, games are not merely watched, they are *played*. This necessarily raises questions about the role of the player and notions of interactivity. Although it would seem most effects researchers acknowledge interactivity as an aspect of games (thereby assuming that if anything games are more influential than other media), none it would appear have fully explored what is meant by this or how to properly theorize it. Secondly, the action in a game unfolds largely according to user input rather than a fully predetermined set of static, recurring elements as one would expect to see in cinema or television. This means that gaming experiences are likely to be different from player to player and session to session, whether subtly or drastically. Third, games are played in different environmental contexts, including arcades, consoles, internet cafes, and PC's, and even within this one can play alone, play with others against each other, play with others against others online, and so on. In other words, there are various types of psycho-social interactions depending on the physical environment in which one plays, which may have some impact on a game's effects. Therefore there are at least two potential shortcomings of effects research to date. First of all, as noted by Malliet (2006), 'these studies have investigated elements of representation rather than elements of simulation, and consequently, that a number of characteristics that are essential to the game play experience have been overlooked.' Secondly, differences among and within particular games, particularly regarding how they might differently position the player with respect to the text, and how the text itself is an unstable element, remain unaccounted for in these studies. In order to properly demonstrate why this would impact not only research that makes claims about causal links, but also a correlative effects study concerned with measuring to what degree aggression is correlated to a given text or set of texts, what is required is a more detailed look at how to properly interpret and con-

textualize both the relationship between games and the player (player positionality) as well as the gaming elements (games as text).

Player positionality

When considering the positionality of the player of a digital game, suffice to say that approaches, definitions and understandings are somewhat disparate. When I say 'positionality' here, it is a catch-all term to refer to what it is like to play a game, what this state is, and what it means for our interpretation of games themselves as well as whatever effects they might have on the player. The two chief components of the psychological and ontological affects of gaming are immersion and identification. Although there are different ways of specifically defining immersion and identification, it would appear that there is now some consistency as to what these terms refer to and what some of their features are in games and gameplay. Immersion describes the extent to which the player has a sense of being 'in' the game world, and identification describes the degree to which one feels attachment to one's avatar. Generally speaking, it is widely believed that games which are highly interactive and inculcate a greater sense of immersion and identification are therefore more intense and have a more significant effect on the player; crucially, these functions usually work in conjunction, such that the games that have the highest levels of immersion and identification tend to be (although are not always) the most interactive. Therefore the terms are better thought of as describing different axes of engagement, where one needs to identify with one's avatar in order to feel immersed, and vice versa. The more pronounced these features are, it is assumed, the greater this affects the player. This assumption underlies a lot of work thus far in violence studies, as well, though as we shall see, there are different ways of discerning which game elements and what sort of gameplay is more or less likely to produce these effects. What follows is a discussion of these streams of thought in relation to each other concerning what gaming is and how it positions or relates to the player. Since even within some of the writings there is often significant overlap of two or more of the above concepts of player positionality, and in some cases mixed methods and theories of how to 'best' describe it, I have chosen a few key selections of writings that are either representative of the general thrust of the literature, or which provide key points of departure for larger commentary and criticism.

Foremost, most authors are concerned with the way that gaming is a different sort of mediated activity than other forms of media reception. First of all, most would agree that games challenge any notion of media spectatorship as a passive process that 'foregrounds a psychic or cognitive experience' (Lahti, 2003: 169). This alludes to a notion of interactivity that pushes beyond the received notion of the 'active' reader, because the actions dictated by the player to the game result in alterations to the text which then dictate to the player what must be done next, in which the player is caught up in a feedback loop. Rather than being simply a stimulus-response circuit, however, many theorize that the game necessarily alters one's perspective, and possibly subjectivity:

> The player becomes less and less a part of me, and more and more a part of the game...This figure of speech intends to make us aware of the fact that our perception is dependent on our position in relation to what is perceived. From the perspective of the player, his or her actions make sense as a direct response to the fictional world of the game (Küklich, 2002: 107).

Therefore although to a certain degree many of the traditional approaches of media studies to reading games as texts still apply, the consensus is that the added aspect of 'interactive' text—that is, that which can be manipulated by the player with at least minimal changes in the appearance of the text—necessarily alters the way in which the player is situated compared to the 'mere' viewer of other visual media. However certain game genres or types may have more powerful effects in this regard than others. Lahti (2003) notes that the development of a third dimension to video games was crucial in that, rather than having the edges of the screen constitute the edges of the game world, the edges only demarcated one's field of vision within the game world. This adds to a sense of immersion, Lahti and others argue, because in order to make sense of the game space the player must maintain a clear sense of geographic location in their mental landscape: it is at minimum 'being' in the game world enough to ask *where am I?* and to (hopefully) know the answer. Therefore the more one feels as if s/he is in that world, so the thinking goes, the more powerfully one reacts to events that transpire within that world—a claim that, if true, should have profound implications for effects researchers.

However, although these observations lay claim to a problematized subjectivity, there is not a lot of sound theoretical grounding for why this really might be the case, other than that it sort of *feels* this way (or perhaps that the text is best 'read' under such auspices) when one observes gaming. This is where some have applied Lacanian psychoanalysis with the ready-made concepts of 'the mirror stage' and 'the gaze' which are explorations of the ways in which looking/seeing help us to formulate notions of self and other. As Taylor (2003) explains:

> Lacan...addresses how, while the subject has an embodied identity, the field of visual perception is outside of the subject and is then embraced by the subject as being internal when the subject perceives itself within that field. Thus, the gaze (visual perception) is outside of the subject and the subject reclaims the gaze and makes it a part of herself, and this includes her perception of her own representation. The uncanny effect of the gaze is that in it, one makes of oneself the object of perception, not the agent of perception, which is outside.

In most games the player cannot see oneself seeing oneself (which is to say, his avatar does not look back at him as if it were a mirror image). However, the question here is whether seeing oneself see things has the same sort of effect on the player's subjectivity according to a Lacanian reading. The only difference, it would seem, is that rather than seeing oneself from the front, one sees oneself from the back (indeed the whole situation puts to test Lacan's under-

standing of the gaze here: is it necessary to actually see the gaze that is gazing back, or merely to know it is there, an intelligent gaze that is located at once in the self represented as well as the self?). By contrast, this identification process cannot work in the first-person mode in a video game:

> The very attempt to bring a player into the game space through the screen by means of a first-person point-of-view is, ironically, inconsistent because the first-person point-of-view assumes that the player herself can be caught into the structure of the game and can then be incorporated into the game space (Taylor, 2003).

According to Taylor, the only way that the player can be brought into the game space is by embodying the gaze of the other on-screen. To the extent that the Lacanian gaze can be applied, therefore, it seems probable that on the occasions that one sees the game differently (switched perspectives, for example), the site of seeing is different and so, therefore, is the level of identification. However, one must ask here: is there a trace or memory of identification carried through to the different perspective, or is this suppressed by the 'in the moment' perspective and cognitive/psychological processes that being in the moment requires? If so, and if this is best understood in Lacanian terms of identification, then 'identification' with respect to gaming is a matter of asking: what game, at what stage, through what perspective(s)? Yet Taylor (2003) offers another possibility here, using the same analytical approach: '[...] The player exists as the subject in one field and then projects into the field of the game space. Thus, the subject exists in simultaneous multiple spaces, further complicating the relationship of the subject to her created representations'. Lacanian psychoanalysis neatly circumvents having to force the researcher's hand too much here, because in either case this identification is the same sort of miscrecognition that occurs in the mirror stage. As Rehak (2003: 122) explains:

> To sit at a computer and handle mouse and keyboard is to be physically positioned; to misrecognize oneself as the addressee of the screen's discourse is to be interpellated as a subject. Under this model, the FPS becomes an extreme form of subject positioning, a scenario of continuous suture.

Rehak (2003) adds, however, that this is not a deterministic model, since there is space for resistance and the extra-diegetic aspects of play: differences among affective reactions of players, software glitches, and whatever else may interrupt or impose different readings and tasks on the player. These extra-diegetic instances may profoundly affect the effect on the player by therefore taking him 'out of the game'. To whatever extent this occurs, therefore, it is sure to interrupt the hermetic process of gaming largely assumed by effects researchers.

There are of course scholars who eschew psychoanalytic frameworks altogether. The primary tack of critics who write in this vein is to downplay the privileging of the avatar: 'Rather than 'becoming' a particular character in the gameworld, seeing the world through their eyes, the player encounters the game

by relating to everything within the gameworld simultaneously' (Newman 2002). This harkens back to the importance of geographic mindscape as being the primary location of self, followed by (if at all) one's avatar. Building on this, Newman (2002) delineates between 'On-Line' gaming (that which is focused, ergodic activity) and 'Off-Line' gaming (that which is part of the game but requires no direct player input). While arguably the terms here are unwieldy in that they evoke internet behavior rather than gaming behavior, the concept is useful in two ways:

> 1) it notes that not all of the time one spends playing a game is actually spent 'playing' as such;
>
> 2) there are important differences between the focused, intense moments of gaming and the 'downtime' of watching cut scenes, reading maps, etc.

He adds:

> The On-Line relationship between primary-player and system/gameworld is not one of clear subject and object. Rather, the interface is a continuous feedback loop where the player must be seen as both implied by, and implicated in, the construction and composition of the experience. Locked into this feedback loop at the level of interface or controls (hence the significance of the feel of the game), the player experiences at the level of first-hand participation and can then sustain and decode multiple and apparently contradictory presentations of the self (Newman, 2002).

The ontological complexity suggested here can be extrapolated to larger questions about the cognitive processes behind violence or aggression: what are the cognitive differences between pulling a trigger with one's avatar and watching a trigger being pulled during a cut scene? If researchers are (understandably) loathe to tackle a question that thorny, at the least such differences in coding for violent acts or aggressive behavior should be noted, because there is clearly a different sort of player engagement for each, which therefore requires different cognitive and affective engagements.

This brings the question of player positionality from ontological to interpretive and ludic aspects of game structures. The focus on the process of actively playing the game (as opposed to merely watching what happens as one plays) shifts the focus from visually projecting/placing/locating oneself in the game world, to constructing it and affixing it in tandem with the play operations that the game asks the player to perform. As Squire (2006: 22) notes, 'Games' graphics are more than pretty pictures; they are signs that the player must learn to read. As players interact with the world to ascertain possibilities for action, they develop a professional vision for the affordances of the world'. Along these lines, Lindley & Sennerstein (2006: 9) argue that 'A player's self-identification with their game character links perceptual events attended according to schema priorities with more general criteria of self value and reward

built into the player's cognitive construction of identity'. Here 'schema priorities' refers to game schema: the objects and tasks that the player must deal with in order to advance in the game, which are 'worked' by the player while the player is interacting with the gaming apparatus. What Lindley and Sennerstein are driving at is a synthesis of the energy put into 'attention', the requirements of working the game schema, the status of the game play gestalt, and the differences between cognitive action and perception. Other authors have also looked to such elements to get at gaming, such as Klimmt (2003), who offers an account of the enjoyment of game play based upon three factors: the experience of effectance, cyclic feelings of suspense and relief, and the fascination of a temporary escape to an alternative reality provided by the fictional world represented by a game. Also, Ermi and Mäyrä (2005) have proposed, based upon observations of children playing games, the SCI model in which immersion in gameplay can take three forms. Sensory immersion involves an immersion in the audiovisual perceptual qualities of a game. Challenge-based immersion involves immersion in the cognitive and motor tasks performed in order to meet the challenges designed into a game. Imaginative immersion involves immersion within the represented imaginary world and fantasy of a game. In other words, game structures, and the demands they put on the player, are just as important to consider as a game's 'look' and interactivity. Squire (2006: 22) relates this nexus to identity formation thusly:

> Through recursive cycles of perceiving and acting, thinking and doing within the game system, a player begins to adopt a particular perceptivity of an avatar within the game world...The resultant game actions are a synthesis between the character and the affordances—capacities for action of the avatar. Critically, players learn not just facts or procedures but how to 'be' in the world as the game character, developing the appreciative systems of the avatar as well.

Newman (2002) largely agrees with the overall rubric of construction/identification through this nexus, but argues that the 'On-Line' aspects of game play that he articulates clearly supersede the semiotic/mythical elements:

> [...] By better understanding the particular types of engagement that occur between players and on-screen characters during play, we may begin to arrive at a point where we don't have to think about Lara [Croft] in playable game sequences in terms of representation – we don't have to think about her in terms of representational traits and appearance – we don't even have to think about 'her' at all.

Newman's point here seems to have merit in terms of the practicalities of gameplay: past a certain point the representation of the game world per se (its semiotic or mythic meanings) ceases to be 'read' by the player so much as accepted to the extent to which it is necessary to do so in order to perform in-game tasks. In other words, the gender (say) of my avatar is not always under inspection by me (i.e. represented to me); rather it is the tasks my avatar is able to perform toward in-game goals that elicits the most concentration and re-

sponse. That said, Newman also seems to misunderstand a vital aspect of this stream of visual culture criticism: that the power or influence of how something in media is represented to the viewer is not nascent to the viewer's overt cognitive appraisal of this representation. Rather, the power of myth, as Barthes aptly argued, is in its ability to be taken for granted, to mean something to the spectator with little or no conscious processing. Therefore while Newman's point about the kinesthetic pleasures of gaming still holds true with respect to the phenomenological/cognitive aspects of play, this doesn't therefore mean that the appearance of the world or avatar is unimportant—it only means it is unimportant to play, and only unimportant in the moment. Further, it is important to note that although some argue that the virtual self (whether or not it is hyperreal) is in a sense just as real as the non-virtual (analog?) self, this is still more or less a metaphorical or practical realness; it is not as if the two end up being the same thing, for as Rehak (2003: 104) points out: 'To blur the distinction between players and their game-generated subjectivities is to bypass pressing questions of ideological mystification and positioning inherent to interactive technologies of the imaginary'.

The impact of these claims on effects research is that it is possible that while a game may be visually violent, ultimately these images are likely to have less impact on the intensity of the player's experience than the affordances of 'in the moment', concentrated play. This delineation could actually therefore work to the advantage of effects research by potentially answering a central paradox of two of the central claims of this body of research:

> 1) that people become desensitized to violent media (which could be the case in a game to the extent that these images become secondary to gameplay), and;
>
> 2) that violent media increase aggression (which could be true if 'violent' games require particular kinds of very intense gameplay, in which case the emphasis should be on 'violent' gameplay structures rather than 'violent' images in the game).

Another possibility here is that games that have 'violent' content are also structured in such a way that 'aggressive' gameplay is required. Therefore what effects researchers are measuring is not players' reactions to violent content per se, but the way in which aggressive behavior via simulated violence is inculcated. To put it another way: if the engine of a combat simulator like *Call of Duty 4: Modern Warfare* (2007, Infinity Ward) were used to render, not photorealistic soldiers being shot amidst the rubble of anonymous Middle Eastern locales, but rather pink bunny rabbits being 'marshmallowed' amidst a field of dandelions, would players still elicit the same levels of 'aggression' via the rigors of game structures which reward aggressive behavior? Is violence or aggression in this cute land more acute in first person 3D, or in third person 2D? In other words, is it enacting simulated violence that leads to the anti-social form of aggression, or simulated aggression that leads to this aggression? So far it is unclear that effects researchers have sufficiently addressed this possibility.

At any rate, the degree to which player subjectivity is dislocated or undermined (which presumably affects the extent to which game content and play affect the player) is clearly a matter of considerable debate. That said, there appears to be an emerging consensus that different types of games, with different interfaces, graphical quality and 2D versus 3D space, require very different types of activity vis-à-vis the configurative/interpretive actions of the player, and these differences are likely to produce very different effects. Therefore in order to properly engage gaming as process, one has to account for such differences. The take away point for studies of violent video games is that not only do different game elements elicit different types of effects (which cannot be consistently classified as 'aggressive' in some overarching framework), but it may also be the case that the effects on the player shift over time as the player gets used to the way the game looks and handles, where some elements become more affective over time while others recede to the background.

Game text

A discussion of game studies approaches to studying games as text involves a number of debates (some still unreconciled) concerning what to make of the shifting ground, as it were, of most games—audio-visual commodities in which no two experiences are precisely the same, and where the meaning of these audio-visual elements may be related to the extent to which they are brought into being by the player. With regard to the particular textual elements of games, several authors note that what counts as 'textual' in games is somewhat more complex than in, say, a book or even a film. Whereas a term like 'remediation' is useful in talking about the ways in which cinematic techniques, for example, are (re)deployed in games, this observation doesn't get us much closer to working out the dynamics of what it's like for the player to experience this, and what the implications are. In short, reading the text of the medium requires some consideration of its supposed or assumed interactivity; however this presents yet another problem: what is meant by 'interactivity'. Van Looy (2003) suggests that a more useful way of approaching the idea of 'text' in this vein is to couch it in a dialectics of Bolter and Grusin's (2000) notions of 'hypermediacy' and 'transparent immediacy':

> Hypermediacy urges the user not only to look at the interface, but also to actively participate in the meaning generation process by offering her multiple channels and paths which she may choose to engage in...In transparent immediacy, on the other hand, the medium attempts to efface itself so as to present the mediated world as a unified visual space, seamlessly integrated in the environment (Van Looy, 2003).

Although Van Looy suggests the former is more akin to games and the latter more like a darkened theater, certainly both tools can be applied when thinking about how different games or game elements might be 'interactive' in different ways. Lauteren (2002: 224) prefers to focus not on interactivity per se, but what a certain degree of interactivity or immersion enables for the player as a function of the uses of pleasure and power: 'By constantly involving the player in

recursive actions necessary to uncover the secret of the text, it engrosses the physicalness of the player. It grants her/him a temporal sphere detached from everyday life and the powers of social control'. In other words, while it is true that the game may structure particular kinds of 'readings', it is a mistake to assign meanings to these readings without a careful consideration of the pleasurable qualities they may afford for the player. This point is echoed by Consalvo's (2003) insistence that while games have 'structured polysemy' to perhaps an even greater extent than most other media, the degree to which polysemic readings and performances are available in games is highly dependent on a game's emergent qualities (i.e. a number of simple rules combining to form interesting variations, resulting in player pleasure being primarily about variation). The implication here is that not only must one identify emergent features, but ask 'how emergent are they?' with consideration to how the game wishes to structure play through its rules and other features of its (hyper/re/im)mediated interface.

Relatively few authors, however, are willing to settle for the 'merely' interactive/immersive aspects when considering methodological and theoretical approaches to game textual analysis. For these authors there is widespread consensus that the various components of games, and the differentiation of components between different games, requires careful attention; in other words, not all digital games are created equal, and analyzing the game *in toto* is a highly problematic exercise. Koznac (2002: 89) claims that there are seven different layers of the computer game: 'hardware, program code, functionality, game play, meaning, referentiality, and socio-culture. Each of these layers may be analysed individually, but an entire analysis of any computer game must be analysed from every angle'. Therefore textual analysis vis-a-vis games covers the technical, aesthetic and socio-cultural perspectives all at once. Furthermore, layers should not be seen in isolation, but probably analyzed together for best effect. Apperley (2006: 7) adds to this notion of layers to note that these layers operate differently in different game genres, arguing that a generic critical vocabulary for games must be developed that 'can perceive the underlying common characteristics of games that might otherwise be regarded as entirely dissimilar if judged solely on representation'. Using four categories for critical analysis developed by King and Kryzwinska (2002: 26-27)—genre (types of interactions), platform (console, computer, etc.), mode (single/multi-player), and milieu (visual genre; horror, etc.)—Apperley (2006: 21) argues that this requires us to shift 'the focus of genre in video games from the imbroglio of visual, narrative, and interactive terminology to a specific focus on genres of interactivity'. Here 'genres of interactivity' provides flexibility in parsing the ergodic differences between not only different games, but different player experiences with the same game—allowing the researcher to home in on what particular elements or events may elicit different responses, and circumventing the tendency to lump similar games as being, say, 'violent,' when they may not be experienced or read in the same way at all times by all people. More to the point, games which may contain the same violent visual material in roughly the same amounts and rendered with the same graphical quality (i.e. milieu, in King and Kryzwinska's (2002) terminology) may not in fact be equally 'violent' if they are

different genres—when the gameplay is wholly different and evokes different ludic (and therefore, so it goes, performative and possibly cognitive) responses.

This practice of textual analysis by way of 'structure cum culture', if you will, is in fact well established in game studies ever since the structurally oriented 'ludological turn' (Dovey & Kennedy, 2006), which was focused on games as primarily rule-based systems. Jesper Juul (2005) describes games as primarily being about the interplay of rules and fiction (the latter being the context in which the player makes sense of the rules, e.g. chess being about a conflict between two kingdoms and the pieces representing specific roles). Game rules are definite, unambiguous parameters that cannot be easily overcome—trying to do so is how we derive enjoyment from them. According to Juul (2005: 5), game rules typically consist of two basic ways in which structure and challenge are provided for players: '*emergence* (a number of simple rules combining to form interesting variations) and...*progression* (separate challenges presented serially)', which can have different values or importance, depending on the game. Jarvinen (2003) and Aarseth, Smedstad and Sunnana (2003) likewise emphasize a 'typology' of games whereby certain structural elements are common to all games (rules, verifiable outcomes, meaningful outcomes, etc.).

The point here is to guard against relying solely on visual and narrative critiques which do not properly account for the rules-fiction ordering or the specificities of gameplay. This structure is therefore bound to elicit differentiated responses on the part of someone who plays it, which must also be considered with respect to the fact that in an online game, for example, a player will be interacting with many other players. With regard to realistic-looking games, such games locate the player within virtual worlds: landscapes in which an an avatar that very well approximates a human figure operates within a good simulation of real space, and interacts with objects that tend to be very good simulations of real objects and their properties (e.g. doors, windows, trees, etc.). Although this technological artifact is intended to simulate in some way the real world, the incongruence between this virtual world and the real world still requires that the player interpret this space. But this is not necessarily done according to the technological aspects of this world; rather, virtual worlds are not technological but cultural constructs, and they are 'primarily an imaginative rather than a sensory experience' (Reid, 1995: 165). Therefore understanding a virtual world and a person's 'location' within it require considering the 'cultural cues' of signification and representation, the invention of new patterns, and the imaginative experience of these phenomena.

To this end, it is important to see gaming as (perhaps primarily) a social activity. As Yates & Littleton (1999: 566) argue: 'gaming needs to be viewed as an activity taking place in cultural niches that arise in the complex interaction between games, gamers and gaming cultures'. Although their analysis is applied more specifically to gender differences in gaming, the overall framework applies here, also: 'gaming' as an activity must be understood as something more than the nominal activity of playing a game; rather, the game and its players must be conceived of relationally (Yates & Littleton, 1999: 569). Therefore a game must be understood according to larger cultural contexts (what the game 'means' in general) as well as the relational meanings brought to bear by players , particularly within a specific gaming community. In short: a great deal of what some

might consider 'extra-textual' (i.e. the contextual aspects of play) are on display in the ways in which player avatars move and interact, and in the case of online play what they are thinking and how they communicate—in the chat window or in an audio headset chat program. Further, this highlights the importance of player behavior in interpreting the text here with respect to how the dominant or preferred reading of a text may be incorporated, utilized, undermined, etc. by players. Richard Bartle (1996) offers an excellent analysis of players and playing with his typology of four player types, and his description of how the interactions between types influences the social atmosphere in the game. The four types are socializers (the players who play to enjoy the company of other players), killers (players who enjoy preying on and harassing other players), achievers (players who like to win and triumph) and explorers (players who enjoy discovering the game's secrets and hidden mechanics, including discovering and exploiting programming errors). Espen Aarseth (2003: 3) adds to this taxonomy 'the cheater', and further argues that a good researcher presents a number of non-playing sources for analysis: previous knowledge of genre, previous knowledge of game-system, other players' reports, reviews, walkthroughs, discussions, observing others play, interviewing players, game documentation, playtesting reports, and interviews with game developers (Aarseth, 2003: 6). Numerous authors have pointed out the importance of the way in which in Massively Multiplayer Online Games (MMOG) in particular, social rules and interaction dramatically affect gameplay, and therefore presumably a game's effects on the player (cf. Jakobssen & Taylor 2003; Li, Jackson, & Trees 2008; Lowood 2006; Newman 2005). Further, the embodied cultural context of gameplay—playing in a PC *bang*, playing with others at a console, playing alone on the PC but connected online—similarly affects how players engage with the text (cf. Apperley 2007; Jin & Chee 2008; Schott & Horrell 2000). In my own research on *America's Army*, players' socialization significantly altered the meaning conferred on specific acts of in-game violence (Kontour 2007), and in my own experience the thing most likely to make players exhibit outward signs of aggression (or at least elevated stress and aggressive language) was not the violence per se, but in fact one's impotent use of it—i.e. being unable to 'complete' violent acts so as to be sufficiently 'successful' at the game. So, considering the tremendous explosion in online play, any study of the effects of violent games should be able to contend with the way in which gaming cultures have affected not only the meaning of gameplay, but to a significant extent, game content—in this way, a 'violent' game may hinge mightily on the way online play is structured and unfolds in the (playful or not) conflicts between real people in real time.

Game scholars therefore make a convincing argument that to conduct any kind of critical analysis of games without a very broad consideration of the player and player/play alternatives is to proceed at one's academic peril, and this literature therefore presents a number of problems for effects research to this point. First of all, not all games are created the same, and neither are all gamers or game experiences. This may require re-examining, for example, research that compares 'violent' to 'non-violent' games to see in the first instance how 'violence' was coded and selected for, and secondly the extent to which violence may occur (or not) in differentiated (and arguably differently affective)

game elements within and among games used in these experiments. This is of course not a mere matter of more clearly demarcating genre or content per se (which elements are more or less 'violent'), but the specific gaming structures in which 'violence' is inculcated and 'aggression' noted. Secondly, coding for particular styles of gaming action, and keeping track of the 'story' of the way game events unfold, might prove to be important due to the differentiation and variety of game structures and elements. Third, the fact that the way in which people actually play games has little resemblance to the way in which they play them in laboratory conditions matters. From the way in which players choose to proceed in a game, to the cultural and environmental context in which meaning-making occurs, and how all this unfolds over long hours spent playing, 'authentic' gameplay is sufficiently different from 'induced' gameplay that this is likely to affect tested-for results.

Conclusion: Toward an Integrative Methodology of Studying the Effects of Games

Having established some of the key terms, concepts and debates that have emerged in game studies, let us recap. First, it is very difficult to make the claim that whole genres of games are 'violent' or that any particular game elicits a singular notion or activity of 'violence'; rather, there are differentiated game elements that dictate crucial differences in how games can be played and understood, and indeed how immersive or interactive they may be, along differentiated notions and intensities of violence. This is not to say that there is not ample violence in games or that they are not affective and influential; rather it is that in *testing* for this in games, such differences must be taken into account. Secondly, different sorts of gaming aspects and elements compel in the player different sorts of identification/immersion/interaction, which is presumed to be linked with the degree to which one is emotionally invested in the game as well as the relative power of ergodic or affective activities or events. Third, the gaming apparatus as well as the social context in which one plays may have a significant impact on the interpretive and phenomenological aspects of gameplay.

Therefore this raises a host of questions for those who wish to measure the effects of playing violent games: which particular gaming elements are 'violent'? Are some violent elements more common, more ergodic, more affective than others? Which has the greater effect: a one-off, highly intense moment that loses its power after repeated play – a scary, violent scene in a game like *Resident Evil* (1996, Capcom)– or lower intensity but highly emergent and repeatable actions (the thousands of kills and deaths in a multiplayer instance of *Call of Duty 4: Modern Warfare*), and does the effect of each have a trajectory over time? To that end, shooting the avatar of a personal friend in a FPS might be just as affective as shooting anyone or anything else—but is it cognitively the same, is the pleasurable thrill some players experience at accomplishing this taken into account, and does this translate into real-world action or desires? Indeed, is the 'aggression' elicited in the heat of friendly competition the same as the 'aggression' elicited in an interactive simulation of 'violent' acts? Could it be that the measurements of affect are in fact measuring reactions to a particu-

lar genre of activity common to most 'violent' games, rather than in reaction to the violence per se? How can we know the difference? When violence is justified within a game, under whose authority and under what auspices? If this translates into real-world actions, might we deem certain kinds of aggressive and violent behavior as warranted and even desirable, like being compelled to intervene in a fight or a mugging, or being compelled to act aggressively on the battlefield to assist one's comrades? And what, if anything, do we do with the ideological aspects of games? Is the primary danger of games in fact violence at all? What if it is instead more productive to focus on body images, sexual objectification, racial or cultural stereotypes, the ideological justification of war, etc.? This of course completely leaves aside any discussion of the possible good or desirable effects of games and gaming (see Ferguson 2007b).

Coupled with the methodological critiques raised in the first section of this essay, all of this should give pause to researchers who claim with absolute certainty that violent games cause or give rise to aggressive and/or violent behavior, and that they have established rigorous means of coming to this conclusion. Here I would like to emphasize that I do not deny the possibility that these researchers may be on to something, and I wholly support this thrust of critical research. Rather the point of this critique is that since they have not accounted for such things in their experiments or analyses, we cannot be certain of the validity of their conclusions. It may be that with regard to certain games, gamers, or in-game instances, the effects of violence here may be even *stronger* and more troubling than even the most prolific and strident effects researchers may claim or realize, and that had they approached their objects of study with proper care, their results would reflect this and be even more convincing. But as they did not, we cannot know for certain whether this is the case.

Of course, conducting the kind of integrative approach that seems required may prove to be quite difficult. Although some have begun to articulate useful methods for accounting for these sorts of complexities in games (e.g. Malliet 2006), shortcomings there are precisely the sorts of things that drive quantitatively-oriented laboratory researchers crazy: lack of quality controls, lack of sensory tracking, overall lack of hard numbers as data. Nonetheless, the pursuit of this integration could be extremely fruitful, not least because integrating game studies with media effects studies should be beneficial to practitioners of both. The primary thrust of this article concerns the ways in which studies on the violent effects of digital games could be made to more accurately reflect and accommodate the way games 'actually' work as socio-technical artifacts. To this end, more convincing and definitive parsing can be made with respect to which specific gaming structures elicit 'violence' and how they correlate with particular metrics of 'aggression' as differentiated from the somewhat undertheorized metrics that have been used to date. However, game studies can in turn benefit from effects research that incorporates game studies methods. After all, an important practical and theoretical question concerns the relative power of the gaming apparatus, which is obviously also what drives effects research. Therefore, for example, is it primarily immersion or interactivity that is more likely to produce a heightened effect like 'aggression'? Is it the act of play, or the interpretation of visual elements, to which players respond most

acutely? Is it the diegetic world of the game, or the non-diegetic socio-cultural elements, which most affects a player's behavior? Is there a kind of push-pull dialectics at work with respect to each of these? Thus far, empirical findings in game studies along these lines, other than potentially in a handful of emerging ethnographically-oriented research, is relatively thin on the ground. If by utilizing the methods of game studies effects researchers can produce empirical results with respect to different gaming situations and structures, even quantitative-averse game studies scholars should be able to find a great deal of fruitful avenues for research. Finally, of course, this presents an opportune opening for game studies scholars to be a part of a conversation in that realm of academia adjacent to politics which thus far seems to have been dominated by others, many of whom, it would seem, are openly contemptuous of and reactionary to games and gaming.

Although a full accounting of how to create methods for accomplishing this is beyond the scope of this paper, some initial possibilities are readily apparent. First, a new and formalized critical vocabulary for games is required whereby individuated game elements are broken down and separated out. This would allow a more nuanced and flexible approach for studying the effects of digital games, wherein researchers could, for example, separate out the purely semiotic elements (i.e. avatar skins, gore, etc.) from the game structures (utilization of space, the fundamental actions of 'shooting', etc.), from the social context (gaming alone, versus with friends at a console, versus on a massively multiplayer online game, etc.). Secondly, the more situated approach to games being developed in game studies could be applied to create more consistent and applicable definitions of 'aggression' as a behavioral outcome. For instance, methods for participant observation have been developed that already shed light on the differences between textually derived meaning-making (i.e. the programmed content of the game) versus more culturally situated reactions and behaviors, like playing in a room full of peers, in a PC *bang* or internet cafe, or online—and indeed differences in behaviors based on the way in which these interact with particular game structures. This would allow effects researchers to distinguish 'aggressive' reactions that originate from the game content itself versus the context in which this game content is played. It would also require more rigor of studies that link gameplay with anti-social behavior such as bullying or other forms of hostility. For instance, Gentile, et al (2003) show that children 'who expose themselves to greater amounts of video game violence' were far more likely to demonstrate hostility and anti-social behavior in a range of ways. However, it is unclear what the context of self-exposure might be here, or why these children seek out 'violent' games. Arguably children who spend much more time than their peers playing video games might have a reason for doing so which correlate with acting out in hostile ways irrespective of the extent to which they play games (e.g. being socially awkward or being classic 'latchkey kids'); further, as any player of online games can attest, the competitive discourse that frequently operates in 'anonymous' servers (i.e. where players do not know each other in 'real life') is often highly aggressive, no matter what sort of game is being played. That said, competitive online interaction tends to be concomitant with combat-oriented FPS—in which case it may be useful to ask whether it is the game per se or rather the discourse of competi-

tion that inculcates aggression and/or hostility, and whether and to what extent specific game structures affect this. These are all issues that a more fully integrated approach to studying effects could address.

Whether this will ever be attempted, whether it is possible, and whether the results would be anything other than a dog's breakfast, is of course something that remains to be seen. However, it seems prudent to attempt to move the conversation on violent digital games forward in a way that will be of benefit to researchers in both camps, and toward policy that takes into account the broader complexity of gaming as it has come to be. Whatever future research and policy courses may be pursued, the fundamental flaws of otherwise seemingly convincing and certainly influential research undermine getting at the heart of whether and to what extent violent games (and/or gaming) is detrimental to society.

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