

Video Games in Psychotherapy

T. Atilla Ceranoglu
Massachusetts General Hospital

Video games have found their way into the clinical care of youth in most medical fields, and academic interest in their use is increasing steadily. The popularity of video games among youth may qualify them as a useful tool in psychotherapy for children and adolescents. Limited literature on use of video games in mental health care suggests that they can help young patients become more cooperative and enthusiastic about psychotherapy. Recent experience suggests that video games may facilitate therapeutic relationships, complement the psychological assessment of youth by evaluating cognitive skills, and elaborate and clarify conflicts during the therapy process. Concerns about video game content, perceived effects on youth, and lack of familiarity with this medium may form a barrier in their use in therapy offices. Further research on the benefits of video game use in psychotherapy, including patient characteristics that may moderate outcomes, is needed. Finally, future collaborations between clinicians and video game developers may produce specific games to be used in psychotherapy.

Keywords: child and adolescent psychotherapy, video games, media

The first video game materialized on an oscilloscope screen in 1958 (Kent, 2001) featuring a game of simulated tennis that amused visitors to Brookhaven National Laboratory. Since this auspicious start, video games have become a major part of pop culture and the entertainment medium of choice for millions of people (Gettler, 2008; Poole, 2000). According to a recent study, 94% of seventh and eighth graders played video games within the previous 6 months, and at least half reported playing games the day before they completed the survey (Olson et al., 2007). Similarly, another recent survey revealed that 97% of American teens between 12 and 17 years of age reported playing video games (Lenhart et al., 2008). Given the wide popularity of video games among youth, psychotherapists working with children and adolescents may find a valuable tool in this entertainment venue.

Video games have found their way into the clinical care of youth in mental health care as well as other fields, and academic interest in clinical use of video games is increasing steadily. Review of a database of academic manuscripts reveals that 1,121 of 1,474 total reports on video games (76%) were published in the past decade (<http://www.pubmed.com>, accessed November 7, 2009). Reported clinical uses of video games include psychoeducation in chronic disease management (e.g., diabetes, asthma) to increase treatment adherence (Yoon & Godwin, 2007) and physical therapy and rehabilitation following traumatic brain injury (Jannink et al., 2008). Video games also serve as valuable adjuncts in pain management during medical procedures (Das, Grimmer, Sparnon, McRae, & Thomas, 2005; Gold, Kim, Kant, Joseph, & Rizzo, 2006), induction of anesthesia (Patel et al., 2006), or cancer

chemotherapy (Kato, Cole, Bradlyn, & Pollock, 2008; Redd et al., 1987). Development of the Internet and the successful transition to personal computers have made video games a medium for human intimacy to an extent never before imagined (Freddolino & Blaschke, 2008; Wilkinson, Ang, & Goh, 2008). For example, a private intranet initiative made it possible for medically ill children to remain in contact, connect with others, and access information about their illnesses even when most social interactions would be limited because of hospitalization (Battles & Wiener, 2002; Bush, Huchital, & Simonian, 2002).

Specific video games are also designed for use in mental health care. The repeatability aspect of video games, as compared with other media forms, is useful in delivering manual-based interventions such as those involved in cognitive-behavioral therapy (USAB, Holzinger, & Gesellschaft, 2007). Recently, the first video game developed to support cognitive-behavioral therapy by offering attractive electronic homework assignments and rehearsing basic psychoeducational parts of treatment has been reported in the literature (Brezinka, 2007, 2008). Video games were also found useful in group therapy for youth in distress, and have been noted to facilitate change in the moral developmental stage of adolescents involved in such therapy (Sherer, 1994). Another game is still in the testing phase for use in a solution-focused intervention for adolescents and is available to mental health professionals participating in studies of its efficacy. This game features issues and challenges that serve as a context for discussion between therapist and patient. Therapists observe the game play to provide a structure to sessions, help build an effective patient-therapist relationship, and improve patient engagement in the therapeutic process (Coyle, Doherty, & Sharry, 2009). Games to enhance social skills training for children with developmental disorders also exist (Mineo, Ziegler, Gill, & Salkin, 2009). These programs feature virtual environments where the player controls an "avatar," an actor within this environment, using a keyboard, mouse, or a gamepad. Through interactions with the virtual environment, the player may rehearse learned social and problem-solving skills.

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Correspondence concerning this article should be addressed to T. Atilla Ceranoglu, Massachusetts General Hospital, 55 Fruit Street, YAW 6A, Boston, MA 02114. E-mail: aceranoglu@partners.org

Psychotherapy relies on development of a working relationship between the patient and therapist. Many children and adolescents may experience difficulties with traditional face-to-face psychotherapy approaches. The reasons for such difficulty may include, among others, differences in language skills between patient and therapist, temperamental factors such as “slow to warm up” traits, and anxiety processes related to underlying psychiatric diagnosis. There is no data on how welcoming clinicians are toward video games in their work with youth; however, potential barriers exist. Empirical data on parent attitudes suggest a generational gap in embracing this type of new play. Only 5% of boys and 6% of girls report playing video games with their parents or caregivers at home (Olson et al., 2007). It is possible that a similar divide is also present in clinical practice, and therapists are hesitant to bring these games into their offices (Koch-Mohr, 1998). Yet, the popularity of video games among youth may qualify them as a useful tool in engaging children and adolescents more readily in psychotherapy. The potentially unique value of video games in psychotherapy will serve to expand the conceptualization of such therapy for youth. Yet, how video game use may influence different stages of psychotherapy remain to be explored.

The Current Review

This article reviews the available literature on video game use in psychotherapy and takes a dynamic perspective in regards to psychotherapy, although it should be noted that the issues addressed here can be applied to many forms of psychotherapy with children. A literature search was conducted on Medline and PsycInfo with keywords *video games*, *psychotherapy*, *computer games*, and *child and adolescent*, and relevant manuscripts were also identified through citations in the articles identified during the primary search. For the purposes of this review, *video game* was defined as a game that employs electronics to create an interactive system that includes a user interface to generate a visual feedback on a video device (Wolf, 2002).

Literature survey revealed different kinds of software used in clinical practice and research. These included serious games (defined as entertaining games with nonentertainment goals), commercial video games, computer programs developed for use in assessing cognitive abilities, and virtual reality used in psychiatric symptom research and training of health care professionals. Literature was also diverse in regard to delivery format of the games, such as computers, specifically designed hardware, handheld devices, and gaming consoles. In observance of the primary goal for this report, that is, use of video games in psychotherapy of children and adolescents, the review focused on the games children and adolescents would play outside the therapist’s office. This choice led to collapsing computer games and video games to one group and review of these reports interchangeably.

Video Games in Psychotherapy

Therapists working with children have long used various activities in psychotherapy sessions such as checkers and board games (Gardner, 1991; Loomis, 1957). Despite widespread video game play in youth, only a few authors have shared their experiences in using these games in psychiatric care through either case series or randomized controlled outcome trials. As such, data on the use and

effectiveness of video games used in therapy have remained sparse.

Initial examples of games used in therapy include computerized versions of available board games that were used during counseling sessions with group-home residents and youth offenders in a correction facility. This game, called BUSTED, was designed to increase offenders’ awareness of consequences for action through simulation game play. Although age range or detailed data on psychiatric diagnoses were not included, the authors of this early report noted improved cooperation in the therapy process (Resnick, 1986).

Other authors reported on their experiences with use of commercially available games modified to meet therapeutic needs of their patients. The first reported study of this approach compared commercially available video games with biofeedback to improve impulsivity among 12 incarcerated juveniles between ages 15–18 years. Impulsivity improved in both study groups, and the authors considered the availability of immediate feedback as the most likely explanation. Individuals in participants in both groups showed significant improvement in impulsivity and self-concept, with posttreatment scores more similar to those of nonrestricted controls. However, generalizability of this study is limited by its relatively small size (Kappes & Thompson, 1985). Another study included three children ages 5, 7 and 10 years who struggled with disruptive behaviors, separation anxiety, and tic disorder, respectively. The therapist introduced a video game into therapy, modeled how to play, and observed a clinical improvement in all three patients (Gardner, 1991). However, once again, such small case study designs are difficult to use in documenting the influence of video games as effective treatment tools.

Two other reports examined interventions in which the therapist played a direct, yet less active role in the therapeutic process by remaining in the background to observe the play and provide feedback or guidance as appropriate. This style of interaction was aimed at raising the child’s awareness of emotional states and conflict management skills. For example, one study used a contemporary text adventure game (i.e., a game lacking a graphical interface, in which only text descriptions are provided), *Adventure of Lost Loch*, which borrowed its dynamics from the well-known role-playing game *Dungeons and Dragons*. The authors observed four teenagers between the ages of 11 and 17 who had impulse control problems. These patients attended the sessions more regularly than they had previously and engaged more actively in therapy when video games were involved in the therapeutic process. The authors concluded that the video game provided opportunity for building rapport between patient and therapist, and supported a nonthreatening atmosphere for therapy (Clarke & Schoech, 1994).

Kokish (1994) described in detail the therapeutic process of five boys between 10 and 14 years of age with history of abuse, neglect, conduct problems, and mental retardation. The author introduced a commercial role-playing game on the computer several weeks into therapy, after the child and therapist had already established a relationship. Therapy was not limited to use of the computer alone. Each therapy session was structured so that the child played the game while the therapist commented on the child’s choices onscreen, and at the end, the child narrated the game progress on a word processor. The children easily engaged in the therapy process, even in the case of a child with conduct

disorder who had failed therapy several times before. The author observed that learning to use a computer as a psychotherapy tool was more difficult and slow than anticipated, yet the computer itself served as a meeting ground for child and therapist, regardless of the available programs.

Finally, other authors have used commercially available video games to provide a safe and highly motivating opportunity to deal with aggressive urges of adolescents at a residential treatment center who had failed several previous therapy interventions. Participants played these games during both individual and group psychotherapy sessions. Authors reported that the adolescents with conduct disorder were noted to be more readily engaged and likely to reach their therapeutic goals (Favelle, 1995). The noted improvement in engagement may be understandable from a relational point: Engagement of a patient with conduct disorder in treatment is crucial and often requires a multimodal approach that addresses multiple foci and extends over long duration. Treatment resistance and failure may pose dire consequences, increasing risk of future criminal offense and recidivism (Steiner, 1997). Therefore, using video games as a tool in psychotherapy of an adolescent with conduct disorder could facilitate the needed engagement in treatment that is difficult to achieve through traditional approaches.

Although few in number, these reports concurred that a therapeutic relationship emerged more quickly when video games were used, in contrast with traditional therapy with children. However, the absence of randomized controlled designs cautions the degree to which such inferences can be made.

Later, authors started to focus on how video games influence further stages of psychotherapy. These included the evaluation of cognitive skills (visuospatial skills, executive functions, etc.), frustration tolerance, and affective regulation of a child during video game play. Observing a child's play style and content choice may offer significant clues to intrapsychic conflicts and may provide material needed to elaborate on those conflicts. A case series from Europe noted the usefulness of video games in evaluating many cognitive skills of two boys and two girls between 7 and 14 years of age. Therapists offered these children the option to play video games from a predetermined list that was prepared with the child's age and area of conflict in mind. The last quarter of each session was reserved for reflection and talk. Although no diagnostic information was shared in the report, the author concluded that style and choice of video game play by the child correlated with real-life issues noted at baseline, and that children with affective dysregulation issues tended to play the video game aggressively, repeating nonfunctional attempts without any meaningful furthering of the game's plot. Familiarity with game content enhanced the therapist's ability to observe any correlation of choice of video game and play style with intrapsychic conflict (Koch-Mohr, 1998).

Other authors from Europe described the relationship of style and choice of game play to intrapsychic conflicts central to the therapeutic process. Bertolini and Nissim (2002) reported in detail the emergence of transference and countertransference experiences during psychoanalytic psychotherapy with two children ages 8 and 13 years. Both children had been in psychoanalytic psychotherapy for 2 years with insufficient progress until the authors welcomed the handheld video games these children brought to therapy sessions. The authors observed the representation of the children's internal world by the video game content and by the way the children played the games and related to the therapist.

They also observed that video game content and play stimulated the development of the children's imagination and aspirations by manifesting in dreams. The emergence of transference and countertransference was replicated in another case series where the therapist offered video games and computer as objects of play in psychodynamic psychotherapy of children (Zelnick, 2005).

While these reports on video game use in psychotherapy adopted different styles of play and engagement, they all arrived at a uniform conclusion: Use of video games in psychotherapy helped young patients become more cooperative and enthusiastic about treatment in the therapist's office. Although these studies are small in scale, and large treatment outcome studies remain lacking, it is possible that video games may provide effective opportunities for therapy with children, particularly when traditional therapy approaches have failed. Yet, concerns about certain inherent aspects of video games may limit their use. A consideration of these barriers and concerns is due when exploring this toy's value in psychotherapy.

Concerns About Use of Video Games in Psychotherapy

Several barriers to the use of video games in psychotherapy are noted in the literature and can be clustered in three groups: (a) content of video games and style of play they require, (b) attitudes toward video games, and (c) access to video games.

Concerns about video game content or the style of play they require are centered around two aspects of video games that may limit their use in psychotherapy (Zelnick, 2005). First, video games offer an evocative medium that may interfere with abstract representation. Most games now are graphically ingenious; scenes are accompanied by melody and sound. Three-dimensional representations of highly complex fantasy situations are replicated and sports or daily life scenes are reproduced with extreme realism. These scenes often are designed to evoke specific emotions such as fear, excitement, and humor (Bertolini & Nissim, 2002). This evocation of numerous different emotions and the fast-paced game style that most video games present may absorb the child and therapist, and potentially interfere with the therapy process. Furthermore, playing these games often allows an easy identification with the characters portrayed and may govern free association, a vital element of dynamic psychotherapy in particular. Finally, the positioning of the therapist and the patient side-by-side may preclude direct engagement between the two. The need for social interaction during therapy may fade into the background, and this may unintentionally facilitate a child's defensive and unproductive use of therapy (Zelnick, 2005). All of these factors are significant, and in following with previous literature, an inclusive approach accommodating and accounting for these factors is possible. For example, fast pace of play may lead to a similar faster expression of intense affect, especially if the game content or protagonist is noted to be relevant to the child's conflict in real life. Likewise, sitting together in front of a screen may make it easier for a child or adolescent to express difficult affect when eye contact is not mandated. These factors may lead to resistance, transference and countertransference to be elaborated differently in comparison to traditional games or toys.

General public attitudes toward video games also may lead therapists to avoid these games in their offices. The common

negative reception to video games, particularly because of belief in a possible association between intensive play and aggressive behavior, school failure, and obesity, makes it difficult for clinicians to display these tools in offices. Skepticism and reflexive blame on new media or new pop culture for society's ills even when data for harm are absent are not new. Throughout history, new media forms or leisure activities went through a similar process that video games currently navigate. In 1314, the mayor of London banned playing soccer because of concerns about the emerging violence and vandalism during and after matches (Carnibella, 1996). Theater in late 19th century, dime novels and comic books in 1900s, TV programs in 1970s, and the role-playing game *Dungeons and Dragons* in 1980s all received criticism based on the notion that they led to violent behavior despite the lack of conclusive data that showed them to cause harm (Ferguson, 2008; Kutner & Olson, 2008).

Barriers also exist in access to this medium because of a lack of familiarity and economic constraints. Lack of familiarity with video game content and dynamics may interfere with access to this medium. For many potential users, video games, gaming consoles, and computers call for acquired skills that take a long time to master (Zelnick, 2005). Furthermore, conscious and subconscious tendencies shape the therapy room and may promote a play style or a place reminiscent of therapist's own childhood where it is more familiar and comfortable for the therapist to play with a child (Koch-Mohr, 1998). Put another way, play therapy rooms may reflect the therapist's interests more than the child's. For therapists unused to video games in their own play as children, they may not see the value of including them in therapy rooms. These preconceptions may form a barrier to potential interest in video game use in psychotherapy. Finally, the equipment comes at a financial cost and involves further expenses such as a TV/projector, game controls, and video game disks or downloads. Such a cost can invoke pressure on a therapist concerned about the equipment getting hit by a frustrated child (Zelnick, 2005).

What Video Games Offer to Psychotherapy

Video games may offer unique opportunities in psychotherapy for youth. Therapists use many toys, including board games, during psychotherapy for children. Several important aspects of the video game medium need to be mentioned when considering their use in psychotherapy. First, by winning in a game when the therapist has not done well, the child can assume a more powerful role in the relationship through trying to console the therapist, help respond to the defeat, or both. Here, an interesting opportunity arises as video games may bring different aspects of transference in therapy, particularly until a time where most psychotherapists become proficient in video game play and when video games become mainstream toys in therapy rooms. In board games, a child often comes with a preconception that the therapist is proficient in the game; therefore, losing to therapist may still be expected and palatable. A loss to the therapist when the child is supposed to be superior may bring up different emotions. No literature exists on interpretation of transference during the use of this medium; however, use of video games may offer a therapist the opportunity to take the student's role quickly and continue to bring out various transference issues.

Second, cheating may look different in video games than in board games. In psychotherapy terms, "cheating" represents an inability to accept the formalized and ritualized structure of the game to provide open competition within a mutually acceptable framework. This definition may apply only partially to video game play as cheating is also used to enhance their game play. "Cheat codes" are signals or triggers implemented in software during game design to facilitate game testing and review. They can be a phrase or combination of buttons on the game controller. These are designed to unlock advanced levels or render a player's character "invincible" for game testers for the sake of time efficiency in testing the game. They often are made public after a game is released to market in order to sustain market interest. Using these cheat codes is often expected and acceptable by most children who may not regard them as "cheating" in the traditional sense (Sun, Lin, & Hong Ho, 2006). Cheating in traditional sense may still persist as video game design is often imperfect and leaves loopholes that may be exploited during game play. An example might be that when a player shoots the ball from a certain point or at a certain speed, it always leads to a desired outcome. Do-overs and restarts are common ways in which the child may interrupt a displeasing result. Therefore, evaluation of the possible meanings of cheating for a child during video game play should include this normative view in addition to developmental aspects (Meeks, 1970).

Sitting together in front of a console and screen may facilitate a relationship and allow a safe path for a patient's conflict to emerge. A therapist and child may build a therapeutic relationship easily and share emotional themes. Careful observation of and interaction with a child during video game play may rapidly deliver various aspects of the child's inner world to the surface. The way a child plays video games and uses them in psychotherapy may yield important clues to mental processes. The opportunities video games serve in psychotherapy during different stages of psychotherapy are reviewed below.

Building a Relationship

Although no data exist on children's preference of one type of play over another, that is, board games versus video games, it may be safe to assume that most children play video games and that this activity is highly desirable (Lenhart et al., 2008; Olson et al., 2007). Children may find it easier to relate to a therapist who is ready and willing to play in their usual way (Freud, 1908/1960). Intense situations during video game play (due to powerful audiovisual effects, emotional nature of play, and identification with featured characters) may bring the therapist and patient closer to one another as they share similar affective states, thereby facilitating the emergence of a therapeutic relationship.

Video game play allows a therapist to go where a child is. It is common for an adolescent to remain silent during therapy, and this may indicate resistance. Here, video games may offer a medium of interaction that can continue through the verbal blackout to reassure the patient that the therapist is still there and in touch with possible changes in the meanings of the silences. This is very similar to the way therapists and children use board games such as checkers (Loomis, 1957).

Evaluation of a Child's Cognitive Processing Style

When a therapist knows more about a child's cognitive processing style, reaching therapeutic goals may become easier. Many cognitive skills of a child may be observed during video game play. Memory, visuospatial, motor and planning skills, academic skills, and frustration tolerance are some examples. Strength or vulnerability in a skill manifests both on and in front of the screen, as a child's handling of challenges in the game and tolerance of possible frustrations can be informative. A therapist may observe the affective regulation and the operating defenses when a child accommodates a win or loss. A child's capacity to improvise solutions to problems can be observed. The video game's repeatability (with the same characters, the same starting point, and the same course of action no matter how many times restarted) may serve as a useful tool to immediately reinforce newly learned skills.

Elaboration and Clarification of Conflicts

Children and adolescents vary among themselves in their verbal skills because of cognitive and developmental differences. Some may be more verbal and articulate and prepared to engage in therapeutic process than others. Yet, the process may be easier to play out in video games for those who struggle in talking about their conflicts. A therapist's attunement during video game play, juxtaposed with intimate knowledge of conflicts in the greater world, may provide ample opportunities to help elaborate on these conflicts and thereby offer clarification. Certain aspects of video game play may facilitate these steps:

1. Whereas side-by-side seating precludes direct or potentially intimate engagement, this setup also places the therapist and the patient in an intimate position sharing the same screen (Zelnick, 2005). The averted gaze may allow the child to take risks, such as starting a conversation about a difficult experience, whether related to game play at hand, real-life stress, or both.

2. Various modes of play available in most video games and their choice by a child may offer significant clues to the child's mental processes. A child can choose to play alone while the therapist watches, or competitively, or team up with the therapist to oppose the computer. A competitive game may offer the opportunity to display aggressive urges, omnipotent wishes, or the desire to destroy and re-create the therapist. Likewise, a child who does not feel ready to take the therapist head on, or a child who is about to achieve other goals working collaboratively with the therapist, may choose to play in cooperative mode.

In summary, video games offer several opportunities in psychotherapy owing to their unique content and versatility of play modes. Not only the choice of game and their customization through use of cheat codes or other modifiable content, but also a child's conduct during the play and relation to the therapist may offer useful information about the child's inner world. These stages may appear differently than we are used to because of aspects of video games different from those of board games or other traditional play therapy techniques. Further research comparing the rate and appearance of various therapy stages and elements (e.g., resistance, transference, and countertransference) is needed. Existing studies that explore the role of video games in psychotherapy are small and use different modalities. Larger ran-

domized studies with controlled designs could determine the patient characteristics and video game aspects that predict improved engagement in therapy where video games are used. It should be noted that observation of a child playing video games is not sufficient as a sole source of information but could supplement a comprehensive evaluation.

Conclusion

At a time when concerns abound regarding video games and their effects on children, the opportunities these games offer may be overlooked. Video games have already found use in medical fields as a rehabilitative or psychoeducational tool, and their use in psychotherapy remains to be explored. An unprecedented advance in the nature and technology of games has brought our field on the verge of a revolutionary development in how we organize and conduct psychotherapy of youth.

In comparison to traditional toys such as board games, several aspects unique to video games may change the appearance of psychotherapy stages. Limited literature on this topic is probably due to certain barriers, yet these concerns themselves may be informative. With careful assessment and awareness of these barriers, clinicians may be able to move past them and find a useful clinical tool in these everyday toys. As clinicians gain familiarity with gaming equipment and its dynamics, more will likely come forward with their experiences on use of this medium in psychotherapy. It is hoped that such interest will stimulate further and more controlled research on the use of this medium in psychotherapy. Future collaborations between clinicians and video game designers will likely produce specific games to be used in psychotherapy.

Parents and caregivers appreciate guidance on video games and their effects on children, although therapists must be careful to remain alert to their own biases in discussing such issues and general societal tendencies to be suspicious of new media. Familiarity with video game content and its dynamics should be included in training of clinicians working with children.

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