THESIS

WII™ ASSISTED MOTIVATIONAL INTERVIEWING WITH FIRST TIME AND LOW LEVEL OFFENDING ADOLESCENTS: STRENGTHENING THE THERAPUETIC ALLIANCE

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In partial fulfillment of the requirements

For the Degree of Master of Science

Colorado State University

Fort Collins, Colorado

Summer 2011

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ABSTRACT

WII™ ASSISTED MOTIVATIONAL INTERVIEWING WITH FIRST TIME AND LOW LEVEL OFFENDING ADOLESCENTS: STRENGTHENING THE THERAPUETIC ALLIANCE

In order for psychotherapy to be effective a strong therapeutic relationship, or alliance, must be present. However, establishing a strong and effective alliance with youth in therapy is a widely acknowledged challenge, particularly with youth who have been mandated to attend therapy because of first time or low level offenses. Alliance formation and client satisfaction were examined for youth participating in motivational interviewing therapy and Wii™ assisted motivational interviewing therapy. The results of this study did not show that using the Wii™ during therapy increases alliance or satisfaction with the therapy process. Sample size presented a significant limitation.

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LITERATURE REVIEW

Introduction

First time and low level offending adolescents are often given a chance to avoid harsh penalties such as jail time by participating in diversion programs. These programs are based on a recognition that psychosocial intervention in the early stages of criminal behavior can enable youth to make positive changes and avoid future offenses (Dembo et al., 2008). Various models of psychotherapy have been shown to be effective with this population (Britt, Blampied, & Hudson, 2003). In order for psychotherapy to be effective a strong therapeutic relationship, or alliance, must be present. However, establishing a strong and effective alliance with youth in therapy is a widely acknowledged challenge. Therefore, it is important to find strategies for overcoming the challenges to alliance formation with adolescents. Strengthening the therapeutic alliance can increase the efficacy of the therapy process for adolescents which may in turn decrease recidivism rates for these early offenders (Zack, Castonguay, & Boswell, 2007).

This pilot study seeks to explore whether or not utilizing the popular video game system Wii™ may address challenges to alliance formation with adolescents and result in a stronger therapeutic alliance overall. The literature review will ground the reader in the significance of the study. First, alliance theory and research will be reviewed. Second, the history and research regarding the use of computer and video games in therapy will be explored. Third, the rationale for using motivational interviewing as the base psychotherapy treatment for the study will be provided.

Alliance Theory and Research

Alliance theory grew out of the psychoanalytic tradition. Practitioners such as Anna Freud emphasized the importance of the relationship between therapist and client to the therapeutic process. Building on this tradition, Bordin (1979) developed a theory of working alliance as the main impetus for change in the therapy process. Motivated by a desire to find a universal element within the many psychotherapy modalities of his time, Bordin proposed that working alliance is the key ingredient across different forms of therapy processes. In other words, the efficacy of any form of therapy is a direct result of the strength of alliance between client and therapist.

Working alliance is defined as a relationship between therapist and client consisting of three main components: agreement on goals, collaboration on tasks, and a general affective bond (Bordin, 1979). The combination of these three elements creates a strong working alliance. The first component identified is an agreement between client and therapist on goals for treatment. Bordin noted that clients generally begin therapy with an idea of what they need to address. Therapists may honor those goals or may create goals of their own based on their theoretical orientation and interpretation of the problem, but Bordin found that collaboration on goals was more important than the nature or origin of the goals themselves. Therapists who work collaboratively with clients to identify goals will have a stronger therapist-client alliance.

The second part of working alliance theory is collaboration on the tasks of therapy. Bordin (1979) compared the beginning of therapy to creating a contract; therapist and client must agree upon the nature of the service and the cost, as well as acceptable forms of payment. Agreement also needs to be established regarding the

nature of therapeutic tasks. Different therapy modalities emphasize different ways to conduct the therapeutic process and address therapeutic tasks. Psychoanalytic therapists may focus on free association and accessing the client's inner experience. Alternatively, behavior therapists may focus on accurate reports of behavior and thoughts. Each will conduct the tasks of therapy in a different manner from the other, but both can be successful in creating change if the client agrees the approach is appropriate (Bordin, 1979). It is the collaboration on establishing tasks that strengthens the working alliance.

Creation of a general bond between therapist and client is the third element essential to forming a strong working alliance. This element emphasizes that a general sense of trust and connection between a therapist and client is essential in order to successfully carry out the tasks of therapy and meet the agreed upon goals. Bordin (1979) noted that regardless of theory or modality, therapists expect clients to be open and vulnerable as part of the therapeutic process. Openness and vulnerability are not possible if the client does not have some sort of bond or connection with the therapist.

Recent research in the field of couple and family therapy provides further support for the importance of alliance theory. Like alliance theory, the common factors paradigm proposes that there are common forces for change that are a part of all effective psychotherapy treatment modalities. Common factors theorists and researchers purport that therapist characteristics have more to do with client change than the treatment itself (Sprenkle, Davis, & Lebow, 2009). Therapist qualities such as "credibility, alliance, and allegiance" are driving force of change, not the specific method which is employed. The emphasis is on client centered and collaborative processes, similar to Bordin's (1979) theory of alliance.

Adolescent Alliance Theory

Zack, et al. (2007) proposed modifications to Bordin's theory of the working alliance to better fit psychotherapy with children and adolescents. A two part theory of working alliance emerged from their review of the literature. They defined the youth working alliance as consisting of two elements: affective bond and collaboration on tasks. Those elements function in a similar way as they do for adults.

Bond and collaboration on tasks carry over from adult alliance theory, but the authors did not find support for including agreement on goals as part of the youth working alliance. Research in this area is not developed and does not offer causal explanations for why this may be the case. Zack, et al. (2007) theorized that incomplete cognitive development and the imposition of goals from external sources may limit the importance of goal agreement to youth alliance. Adolescent ability to plan ahead and make long term goals may be limited, therefore lessening the importance of discussing goals as part of the therapeutic process. Additionally, children and youth are often brought to therapy by parents or mandated to attend by the judicial system. Goals may be imposed by external forces which may make collaboration on goals less possible or less helpful in the therapeutic process. Further research is needed to clarify why collaboration on goals appears less important to alliance formation with adolescents.

Zack, et al. (2007) confirm Bordin's (1979) notion that the working alliance is relevant across therapeutic modalities. They found that the nature of the treatment approach or modality does not moderate the relationship between alliance and outcome for youth or adults. Thus, the working alliance components of affective bond and collaboration on tasks are applicable to all forms of therapy conducted with adolescents.

There has been some question as to whether or not all research into adolescent alliance has addressed the same theoretical concept. Although different terms have been used to refer to the working alliance, such as therapeutic relationship or client-therapist alliance, Karver, et al. (2006) determined that researchers appear to be studying the same general concept. Different names may be used, but it appears that researchers are focusing on a central notion of alliance that matches the definition proposed by Zack et al. (2007).

Adolescent Alliance Research

Similar to adult psychotherapy research, adolescent therapy literature has focused on the therapeutic alliance as an important factor in the therapy process. Although further research is still needed, there is empirical evidence that alliance is an integral aspect of the change process for adolescents as well (Bickman et al., 2000; Shirk & Karver, 2003). For example, strong alliance for adolescents has been significantly associated with observed increases in youth functioning and decreased symptom severity as reported by parents (Noser & Bickman, 2000). Hawley and Weisz (2005) also found that symptom improvement was linked to therapeutic alliance. Several meta-analyses have confirmed the relationship between adolescent-therapist alliance and therapeutic outcomes. Shirk and Karver (2003) examined 23 studies and discovered a significant association with therapeutic outcomes. The same is true of a later review that accounted for 49 youth studies (Karver, Handelsman, Fields, & Bickman, 2006). The most recent meta-analysis of adolescent alliance literature revealed that a poor alliance was found to predict early therapy termination and a strong alliance predicted improved symptoms (Zack, et al.,

2007). The moderate effect sizes were impressive given the many factors involved with therapeutic processes.

Alliance is also significantly related to outcome factors other than symptom reduction. Associations were established between alliance and positive family dynamics, higher self-esteem, increased perceived social support, and higher satisfaction with the therapy process (Hawley & Garland, 2008). A strong alliance is also related to improved youth involvement with therapeutic tasks (Karver et al., 2008). Thus, increasing alliance can result in more engagement and more positive outcomes in a broader sense.

In summary, all of these associations reveal the integral nature of alliance in adolescent therapy processes. It represents a key opportunity to have far reaching impact on youth outcomes. Finding ways to improve alliance can improve therapy outcomes, increase involvement with therapy tasks, help keep adolescents in therapy long enough to benefit, and improve satisfaction with therapy.

Challenges to alliance with adolescents. Research has identified several challenges to forming a strong therapeutic alliance with adolescents. The main challenges are that therapists often use adult techniques with adolescents, adolescents often have negative ideas about therapy, and many adolescents are unwilling participants in therapy.

Therapists have generally applied the same approach to therapy with adolescents as is used with adults. These approaches can impede alliance formation. In a study geared towards adolescent boys, Kiselica (2003) argued that adolescents often do not relate in the same way as adults. Using adult modes of therapy, such as sitting and talking face to face in a formal setting, may not work for adolescent clients and may contribute to negative perceptions of therapists and therapy on the part of adolescents. Formal

psychotherapy settings are not familiar to adolescents and can result in feelings of incompetence (Oetzel & Scherer, 2003). Therapists using traditional adult methods of therapy may be perceived as inflexible or critical.

Given developmental differences from adults, adolescents placed in traditional therapy settings can feel inadequate and intimidated which can contribute to increased difficulty forming a positive therapeutic alliance. Insufficient cognitive maturity may make it more difficult to grasp long term implications of therapy (Oetzel & Scherer, 2003). Especially in emotional situations, adolescents may not have the cognitive capability to engage in extensive abstract thinking and self-reflection, which can lead to feelings of inadequacy. Adolescence is also a time when individuals are working to establish autonomy (Hanna & Hunt, 1999). Therapist's questions and inquiries may be viewed as controlling and intrusive instead of supportive of the adolescent's pursuit of independence.

Many adolescents have a negative stigma of therapy, which further inhibits alliance formation (Karver, et al., 2008). Therapy may be thought of as something that "crazy" people need or something that is for people in mental hospitals (Oetzel & Scherer, 2003). Peers can play a role in discouraging adolescents who are involved with therapy by teasing and perpetuating the notion of therapy as a treatment for "crazy" people. The negative stigma associated with psychotherapy also extends to therapists themselves. Adolescent clients often consider therapists to be old or "out of touch."

It may be difficult to establish alliance because adolescents feel they have little control over the process and therapy goals. Often adolescents come to therapy because they are required to do so by parents or the justice system (Oetzel & Scherer, 2003).

Adolescents may not believe their input is valued and therapy may be viewed as a punishment. Adolescents may also disagree about the cause or nature of the reported problem (Zack, et al., 2007). All of these factors may interfere with willingness to participate in therapy, and therefore alliance formation may become more difficult.

Adolescents who are referred to therapy for externalizing problems such as aggressive behaviors or anger present an even greater challenge to establishing alliance (Shirk & Karver, 2003). Clients with externalizing issues are more likely to be resistant to authority figures, such as therapists, and to attribute their problems to others. Although it may be more difficult to form an alliance with adolescents who have externalizing issues, there is also a stronger relationship between quality of alliance and outcomes for that population of clients. Thus, while forming a positive alliance with adolescents may be more challenging, it also may be more important (Shirk & Karver).

A mismatch between adolescent clients and traditional therapy approaches for adults, negative stigmas and perceptions associated with therapy, and the fact that many adolescents are unwilling participants in therapy are all factors which contribute to difficulties in alliance formation. Externalizing behaviors present additional barriers to alliance formation.

How to form an alliance. Researchers have suggested several strategies for improving the therapeutic alliance with adolescent clients. Given the challenges outlined above, it follows that utilizing developmentally appropriate techniques, addressing negative stigmas, and addressing the fact that many adolescents are unwilling participants would decrease barriers to alliance formation.

One strategy is to match the therapy methods to the adolescent's developmental and social needs (Kiselica, 2003; Oetzel & Scherer, 2003). It may be helpful to be flexible about where and when to meet for the therapy appointment. Meeting in a location that is familiar to the client, such as a coffee shop or a park could support more feelings of competence and comfort. Kiselica also emphasized that participating in other activities such as casual sports or board games have been helpful in engaging adolescent males in his case studies. He stated that the side-by-side setting of sports or board games, in which both individuals are equal participants, seemed to be an important factor in reducing pressure and allowing youth to open up more comfortably. Creating a more comfortable and familiar setting by using side-by-side instead of face-to-face techniques for therapy can help meet the developmental and social needs of adolescent clients.

Another strategy for strengthening the therapeutic alliance with adolescent clients is to address the negative stigma and perceptions of therapy and therapists (Oetzel & Scherer, 2003). Normalizing the adolescent client's experience and behavior can help the client feel more at ease about participating in an activity that may be viewed as negative. Directly discussing the process of therapy and what to expect can help adolescents feel more comfortable in an unfamiliar setting. Therapist behaviors that defy stereotypes can also help open clients up to forming a strong alliance. Demonstrating flexibility and a willingness to explore deep emotions gradually can help therapists overcome the stereotype of being rigid, formal, and intrusive (Kiselica, 2003). Creating a positive, "normal", and flexible environment can help address the negative stigmas and perceptions of therapy and therapists that present challenges to alliance formation.

Addressing the challenges of unwilling therapy participants is another strategy for increasing the strength of adolescent-therapist alliances. Providing a collaborative atmosphere and emphasizing choice can help overcome resistance from clients who are ordered to attend therapy (Oetzel & Scherer, 2003). Collaborative techniques and providing choice can assist in clients feeling their input is valued and give them a sense of control over the therapy process. Therapists presenting with less authoritative behaviors and attitudes may also help adolescent clients who are forced to attend therapy feel more open to the therapeutic process. Non-authoritarian behaviors on the part of the therapist can help clients with externalizing behaviors feel more comfortable and increase their ability to bond with the therapist. Thus, emphasizing collaborative techniques, providing choice, and taking a non-authoritarian stance can help decrease resistance to alliance formation.

In summary, using side-by-side contemporary techniques, creating a positive impression of therapy and therapists, and emphasizing collaboration in therapy can all aid in forming a strong therapeutic alliance. Given those strategies, it follows that therapy models and therapist behaviors using those techniques or fostering those atmospheres would increase the strength of the adolescent-therapist alliance. This study proposes that using a popular, widely available video game in therapy may address some of the challenges to alliance formation. In particular, the Wii™ may support alliance formation because it is a side-by-side, collaborative technique and can create a positive impression of therapy and therapists.

Use of Computer/Video games in Therapy

When computers became more available to the general population, many professionals began to speculate about uses in their respective fields. Researchers focused on uses of computer games in educational and physical health arenas (Griffiths, 2004; Stern, Jeaco, & Millar, 1999) but the benefits of computer games in the mental health field remains largely uninvestigated. The little work that has been done in this area has centered on teaching skills or lessons using either researcher designed computer games or commercial video games. Additionally, the focus has been on the therapeutic potential of the games themselves and the possibility of decreasing the role of therapists, particularly with clients who are resistant to therapy. Researchers have paid little attention to the ability of games to increase the therapeutic alliance.

Researcher designed computer games. Much attention has been given to the ability of computer games to replace therapists. Although researchers agree that human interaction is irreplaceable in the therapy process, many have designed games to teach the same skills and lessons therapists do. For adolescents, games such as the Mentor program (Clark, 1984) and Personal Investigator (Coyle, Doherty, & Sharry, 2009) are examples of researcher-designed computer games targeting adolescents.

The Mentor computer game (Clark, 1984) was designed to help adolescents learn impulse control. The creators recognized that most adolescents resent treatment because it is so often forced upon them by authority figures. They also recognized that adolescents enjoy playing computer games and are likely to find computer games motivating. Based on these insights, Clark designed a game to partially replace the

therapist's role in teaching impulse control, which is a common presenting problem for adolescents.

In the game, a character called "Mentor" gives advice and encouragement to players as they make decisions about how to proceed. Mentor's messages focus on encouraging players to plan ahead, think through decisions, focus on goals, and weigh the possible outcomes of decisions. The author observed that adolescents previously resistant to therapy were happy to play the computer game and that general attendance seemed to rise. Although no outcome measures were used in the study, the author proposed that using the game may have increased cooperation by providing a non-threatening atmosphere and opportunities to have positive interactions with the therapist.

Personal Investigator (PI) (Coyle, et al., 2009) is a more recently developed computer game designed for adolescent clients. Coyle, et al., suggested that computer games are familiar to adolescents and will create a more comfortable setting for therapy. PI aims to raise issues and conversations that would have emerged in therapy in a way that will be well received by adolescents. Players meet other characters and answer the character's questions about overcoming problems.

Although PI focuses on creating insight and addressing problems, some participating therapists reported that decreasing the focus on face-to-face interaction was the main benefit of using the game (Coyle, et al., 2009). In addition, one therapist observed that PI may have improved their relationship with clients. These observations indicate that games may be helpful in establishing a positive relationship with clients, but the data is drawn mainly from one therapist's comments about the game and no outcome measures were used.

Commercial video games. Like computer games, commercial video games have mostly been used to teach skills and create insight into personal issues. Case studies with adolescents using Sonic the Hedghog© and Blizzard© show that the games may be useful in teaching social skills (Enfield, Grosser, & Rubin, 2008). Players must plan ahead and think of consequences before acting. The therapist conducting the case study also reported that the game provided a good platform for discussing polite behavior in regards to competition. Video games may also support self-control and risk taking. Players are able to learn skills for decision making in a physically safe environment (Allen, 1984).

Video games create a virtual environment in which players can re-create stories in an emotionally safe and distant manner. The Sims 2 is one game that shows promise in this area (Fanning & Brighton, 2007). Clients have the ability to create their own game world and characters which may contribute to a greater sense of self efficacy and control over circumstances. In addition, clients can act out situations or emotions in a safe manner that is removed from reality. Thus, clients are able to explore deep emotions and painful life experiences through their characters. The Sims 2 seems to act as a storytelling tool that therapists can help direct and support to create personal insight.

Researchers propose that online games can provide therapeutic benefits as well (Wilkinson, Ang, & Goh, 2008). Players are connected with an online community that can help decrease isolation and encourage participation in social life. These games do not involve a therapist at all, but may provide a valuable means of communication for isolated individuals.

Commercial video games are also a popular leisure activity. For those adolescents who are in a secure setting such as a detention center or hospital, video games may provide access to typical activities in a setting that is not typical (Gooch & Living, 2004). Normalizing activities may help reduce anxiety and improve self-esteem. Utilizing widely available and popular commercial video games can aid in creating a more familiar atmosphere for adolescents in therapeutic settings.

Computer/Video Games and Alliance. To date, research regarding the use of computer or video games in therapy has not focused on alliance, but some studies reveal ways in which games may help overcome some of the challenges associated with adolescent alliance formation. Case studies and clinician reports indicate that using video games as a part of therapy can help create a more relaxed setting, support collaboration, and address negative perceptions of therapists.

Several researchers noted that playing computer or video games may support a positive therapist-client relationship by creating a relaxed atmosphere. Enfield (2008) noted that the mood between client and therapist changed when playing Mario Cart™. The client seemed to be more relaxed and open to talking. In fact, the client spoke about his family and emotions frequently while playing the game with his therapist. He also observed that two adolescent boys playing a video game together seemed to speak more freely and form a quick bond together. The familiarity of the game allowed the boys to be more open and comfortable in therapy.

Gardner (1991) proposed that video games helped create a more egalitarian relationship between therapist and client. In his case studies, he noticed that playing Mario Bros by Nintendo™ seemed to be an effective "ice-breaker" which set the

therapist and client on a more equal playing field. Clients appeared more confident with a stronger sense of self efficacy when playing the video games. The egalitarian relationship and heightened sense of ability supports a collaborative therapeutic process.

Playing video games may also help change negative preconceptions adolescents may hold about therapists. Gardner (1991) observed that his clients were surprised and pleased to know their therapist played video games. Interacting in shared activities in general may help form a bond, but interacting specifically in a popular youth activity helps debunk the myth of therapists as old and out of touch.

Although there is little research and what exists is not systematic, the above case studies and clinician reports suggest that additional research into video games and alliance is warranted. Video games represent a potential strategy for enhancing the working alliance with adolescents. Strengthening the alliance can, in turn, increase positive outcomes for youth and their families. Using video games may address major challenges to the alliance formation process. The evidence to date points to their usefulness in creating a more relaxed youth-friendly environment, setting a collaborative and egalitarian tone, and establishing a more positive impression of therapists and the therapy process.

In particular a popular and readily available commercial video game system such as the Wii™ may be especially effective due to its familiarity and accessibility to a wide audience. The games are simple and generally involve two players, which makes them an ideal tool for therapists. Simple games will not detract from conversations while two player games involve both therapist and client.

This study will examine the effectiveness of using the Wii™ to strengthen therapeutic alliance with adolescent clients and improve client satisfaction with the therapeutic process. Motivational interviewing will be the base psychotherapeutic treatment for both the comparison and the treatment groups.

Motivational Interviewing

Motivational interviewing was chosen as the base treatment approach for this study because it is an evidenced based modality. It has been found to be effective with many different populations and problems. Research supports the efficacy of motivational interviewing with adolescents as well as with clients presenting with externalizing behaviors or substance abuse (Britt, et al., 2003; Burke, Arkowitz, & Menchola, 2003).

Motivational interviewing is a treatment modality that focuses on client motivation for change. Developed by William Miller in 1983, motivational interviewing proposes that motivation is a state of being ready to change or not ready to change. Thus, people can shift from a state of not being ready to change into a state of readiness for change. This is in opposition to theories that hold motivation as a personality trait that cannot be influenced or changed (Britt, et al., 2003; Miller & Rollnick, 2002).

Additionally, motivational interviewing is a brief form of therapy that fits well within time constraints often imposed upon adolescent clients who are mandated to attend treatment. Motivational interviewing has been adapted into many different forms, most of which are designed to create motivation for change in a very short amount of time. Treatment length can be as short as 40 minutes for some forms of motivational interviewing (Britt, et al., 2003). These adaptations of motivational interviewing are referred to as adapted motivational interviewing (AMI).

Lastly, motivational interviewing is a client centered approach to therapy and fits well within the paradigm of alliance theory. Therapists operating within the framework of motivational interviewing do not impose change upon clients, but support them to explore their ambivalence about making changes to their behavior. Clients are not given steps or recommendations about how to go about change. The goal is to evoke a motivation for change within the client (Britt, et al., 2003). In this way, motivational interviewing emphasizes client abilities and desires instead of therapist imposed treatment goals. This client centered approach fits well with the collaborative nature of alliance theory.

Hypotheses

Based on the research, there are two hypotheses for this study.

Hypothesis 1. Using the Wii™ during motivational interviewing therapy will improve the therapeutic alliance with adolescents.

Hypothesis 2. Using the Wii™ during motivational interviewing therapy will increase adolescent satisfaction with the therapeutic process.

METHODS

Participants

The Center for Family and Couple Therapy (CFCT) is the graduate training center for the Marriage and Family Therapy graduate degree program at Colorado State University. The CFCT has a contract with a community service agency to provide therapy services to youth on diversion or deferred sentences in Larimer County. Adolescent clients are ordered to attend therapy as seen to be appropriate by their caseworker. The CFCT is allotted a specific number of sessions for each client, with 15 sessions as the maximum allowance. Clients are also referred to a youth mentoring program associated with the CFCT called Campus Corps. Youth may be referred to Campus Corps and not to therapy or vice versa. This study was part of a larger CFCT effort to provide the best possible services to offending youth and their families through therapy and Campus Corps.

Male and female youth between the ages of 12-18 were recruited through the existing contract with a community service agency. Participants were provided with informed consent through the standard intake process conducted by Center for Family and Couple Therapy (CFCT) Interns. Youth were also recruited through the intake process for Campus Corps. Youth referred to Campus Corps and not to therapy were offered three free therapy sessions. All youth who participated were entered into a drawing for a Wii™ game system. Each adolescent was part of the diversion or probation

programs through the Larimer County juvenile justice system. Those programs serve first time or low level offending youth.

A total of 25 participants were recruited and 21 completed the study. Of the four who dropped out of the study, two switched therapists partway through their three sessions, one ran away, and one was sent to the Larimer County youth detention center. Of the youth who completed the study, there were 17 male and 4 female participants with a mean age of 15.6 years. Approximately half of the sample was Caucasian and half was Hispanic American. Participants were randomly assigned to a treatment group; 12 to the Wii™-assisted motivational interviewing group and 13 to the comparison group. Nine youth from the Wii™-assisted motivational interviewing group and 12 of the comparison group completed the study.

Procedure

Motivational interviewing was the base treatment for both the control and intervention groups. It has been shown to be effective with adolescents as well as with clients presenting with externalizing behaviors or substance abuse (Britt, et al., 2003; Burke, et al., 2003).

The comparison group received motivational interviewing therapy for three 50 minute sessions. The treatment group received Wii™-assisted motivational interviewing for three 50 minute sessions. Wii™-assisted therapy utilized simple two player games during which therapists conducted motivational interviewing therapy. Both conditions were manualized and therapists received extensive training to ensure maximum continuity in treatment. Therapy was conducted in the CFCT by CFCT interns. All sessions were recorded for observation and training purposes. Recorded sessions were

coded according to the Motivational Interviewing Treatment Integrity Code (Moyers et al., 2010) to ensure therapist compliance with motivational interviewing methods. A 2 (group) by 3 (time) repeated measures MANOVA was performed to determine if there were significant differences between groups in the amount and quality of motivation interviewing provided. The resulting value for between groups was Wilks's $\Lambda = .18$, F (5, 5) = 4.60, $p > .05$. This means that neither group provided more or better motivational interviewing than the other. Therapists in both groups demonstrated the same level of adherence to the motivational interviewing protocol. Inter-rater reliability was assessed using Pearson's correlation for each aspect of the Treatment Integrity Code with a resulting average value of r (14) = .93.

Alliance was measured at the end of each session. Satisfaction was measured at the conclusion of the third session. After three sessions were completed, therapists continued to treat clients as usual until clients and therapists determine that termination is appropriate. For participants recruited through Campus Corps, therapy was terminated at the end of three sessions unless the youth or family desired to continue as self-paying clients. Data was not collected after the third session.

Measures

Adolescent working alliance was measured using the Working Alliance Inventory (WAI) short form (Horvath & Greenberg, 1989). Although the WAI is an adult measure, it has been shown to be valid and reliable with youth (Hawley & Garland, 2008). The WAI short form consisted of 12 items on a 7 point likert scale. Both adolescent and therapist measurements of alliance were taken at baseline and at the conclusion of each session. Cronbach's alpha for client report of alliance was .9 or greater for all three time

points which indicates a high level of internal consistency. Cronbach's alpha was computed for therapist report as well. For the first time point, the alpha was .8 which indicates that the items have reasonable internal consistency. For the second and third time points, the alpha was .60 and .62 respectively which indicates an inadequate level of reliability.

Adolescent satisfaction was measured using the Client Satisfaction Questionnaire (CSQ-8) (Attkisson & Zwick, 1982). The CSQ-8 is another adult questionnaire, but it has also been shown to be valid and reliable with adolescents (Loff, Trigg, & Cassels, 1987). The questionnaire consisted of 8 items with a 5 point likert scale response system. Adolescents completed the CSQ-8 at the conclusion of each session. Cronbach's alpha was calculated to determine the internal reliability of the CSQ-8 with a resulting value of .88 which indicates good internal consistency.

RESULTS

Hypothesis 1

Based on the research, it was hypothesized that using the Wii™ during motivational interviewing therapy would improve the therapeutic alliance with adolescents. A 2 (group) x 3 (time) repeated measures MANOVA was performed to test whether or not there were differences between groups for therapist report of alliance at each time point (session 1, 2 and 3) and whether or not there was an interaction between time and treatment group. The resulting value for between groups was Wilks's $\Lambda = .73$, $F(3, 12) = 1.47$, $p > .05$. This means that the Wii™ group was not significantly higher for therapist report of alliance at any time point. The resulting value for the time x treatment group was Wilks's $\Lambda = .79$, $F(6, 9) = .39$, $p > .05$. This means that there was not a significant interaction between session number and treatment group. Change in therapist report of alliance over time did not depend upon the treatment group.

The resulting value for time, or session number, was Wilks's $\Lambda = .22$, $F(6, 9) = 5.42$, $p < .05$. This means that therapist report of alliance increased significantly over time, but there was not a significant difference in increase between groups. The Wii™ group did not have a greater increase in therapist report of alliance than the comparison group.

A 2 (group) x 3 (time) repeated measures MANOVA was also performed to test whether or not there were differences between groups for client report of alliance at each time point (session 1, 2 and 3), and whether or not there was an interaction between time

and treatment group. The resulting value for between groups was Wilks's $\Lambda = .96$, F (3, 13) = .19, $p > .05$. This means that the Wii™ group was not significantly higher for client report of alliance at any time point. The resulting value for the time x treatment group was Wilks's $\Lambda = .62$, F (6, 10) = 1.02, $p > .05$. This means that there was not a significant interaction between session number and treatment group. The resulting value for time, or session number, was Wilks's $\Lambda = .54$, F (6, 10) = 1.43, $p > .05$. This means that there was not a significant change in client report of alliance over time for either group. Using the Wii™ in session did not significantly increase client report of alliance. Because there was not a significant increase in alliance for therapist report or client report, the hypothesis must be rejected.

Hypothesis 2

It was also hypothesized that using the Wii™ during motivational interviewing therapy would increase adolescent satisfaction with the therapeutic process. An independent samples t test was performed to examine whether or not the Wii™ treatment group had a higher level of satisfaction than the comparison group. The resulting value was t (15) = 1.17, $p > .05$. This means that the Wii™ group did not report a significantly higher level of satisfaction than the control group, and the hypothesis must be rejected.

DISCUSSION

It was hypothesized that using the Wii™ during motivational interviewing therapy with adolescents who are first time or low level offenders would increase alliance with the therapist and satisfaction with the therapeutic process. The results of this study did not show that using the Wii™ during therapy increases alliance or satisfaction with the therapy process. In this section, the limitations of this study will be explored, followed by a general discussion and future directions for research.

Limitations of study

The most significant limitation of this study is the small sample size. The original intent was to have 30 participants, 15 in each group. Due to unexpected difficulties with recruitment, the actual sample was 9 in the Wii™- assisted therapy group and 12 in the comparison group. The power to detect significant differences was severely limited by the small sample size.

Recruitment did not occur as planned because referrals from the community service agency slowed dramatically just prior to the beginning of data collection due to changes in the Fort Collins justice system. To compensate for the low numbers of referrals, a new recruitment strategy was developed that involved recruiting participants from a mentoring program run by the Center for Family and Couple Therapy which serves youth in diversion or deferral programs. While the general population remained the same, this change to the recruitment strategies presented two limitations. The first is these youth were not necessarily mandated to attend therapy. They were volunteering

their time and might not have had the same resistance to therapy that is common among those who are required to attend. Second, the participants knew at the outset of therapy that they would only be attending three sessions. This might have decreased their motivation to create a bond with the therapist as compared with those who were continuing on for 5 or 12 more sessions. Alliance formation may have a different trajectory when the client is aware that the time frame is limited.

Discussion of results

While the small sample size may explain the lack of statistically significant results, other explanations for these results are plausible and worthy of discussion. First, it is possible that three sessions is too long to use the Wii™ in therapy in order to maintain optimal results related to therapeutic alliance and treatment satisfaction. The results of this study suggest that it may be more effective to use the Wii during the first session only and then perhaps on a case-by-case basis thereafter. Although the difference was not significant, the Wii™ treatment group had a higher level of alliance for therapist and client report after the first session. It may be that after clients develop an initial alliance with the therapist and become more comfortable with the therapeutic process, using the Wii is distracting to the therapeutic process.

Second, it may be that the Wii™ is not the preferred game for certain ages or groups of adolescents. Many youth prefer more advanced game consoles with online playing and more mature games. Those youth might not have enjoyed the games played during session, as they may have perceived them as not "cool." Other youth might not have had prior experience with the Wii™ and might have been uncomfortable playing for the first time with a therapist. Both enjoyment and comfort may be related to alliance and

satisfaction. Unfortunately, participant numbers in the Wii™ treatment group are too low to explore these suppositions.

Third, most therapists are not accustomed to playing video games during therapy sessions and may not have been comfortable conducting therapy while playing. Playing the Wii™ could have been distracting for these therapists, or prevented them from presenting ideal levels of calm, confidence, and concentration. Although comparisons between groups revealed no differences in the amount or skill of motivational interviewing used by therapists, it may be that therapists using the Wii™ were simply not as comfortable conducting therapy which might have influenced alliance formation. Tentative explorations of this hypothesis were made: Correlations were performed to examine whether or not there is an association between therapist comfort with the Wii™ and client alliance and satisfaction. The resulting values were not significant. Therapists who were more comfortable using the Wii™ did not have higher ratings of alliance. However, the ability to draw conclusions based on these results is limited because of the small sample size.

Lastly, youth in the Wii™ treatment group were not given a choice about whether or not they played video games. They chose which game to play, but did not choose whether or not to play in the beginning. This lack of choice may have created a sense of not having control which may in turn decrease the alliance.

Future directions

The literature still presents compelling arguments for the use of video games such as the Wii™ during therapy to create a more relaxed, egalitarian, and comfortable environment. One future direction would be to conduct the study as originally planned

with youth mandated to attend 8 sessions of therapy. That would eliminate the limitations presented by accessing youth who participated voluntarily for only three sessions. Youth may have less motivation to form a connection with the therapist if they know they only have three sessions. The opposite may also be true: Youth may form an alliance quicker if they are voluntarily participating than if they are mandated to attend.

Varying the number of sessions that use the Wii™ could be another helpful change. This would provide additional information in regards to how much is too much. There may be a point at which the Wii™ becomes distracting to the therapeutic process. Having treatment groups with varying numbers of sessions using the Wii™ would allow researchers to determine if that is the case.

An additional direction would be to allow youth in the Wii™ group to choose whether or not they wanted to play Wii™ as part of their therapy. Although youth were not required to play Wii™ if they asked not to, they were not given a choice at the beginning. Providing choice at the beginning would eliminate the possibility that youth feel disempowered as a result of participating in the study. One of the main purposes of the study was to create a more relaxed, egalitarian atmosphere. The fact that youth did not have a choice as to whether or not they played Wii™ during their session may have negatively impacted the egalitarian atmosphere by removing the sense of control. Allowing for choice would require more participants to be recruited in order to compensate for those that choose not to play the games.

A final thought is that the Wii™ may be a useful tool in therapy, but not as a uniform treatment modality. The literature suggests that creating a more relaxed, egalitarian atmosphere is helpful to creating a stronger alliance, but the Wii™ may not be

the best way of doing that for every client. The Wii™ may make some clients uncomfortable or a client may feel the Wii™ is a distraction. Like other therapeutic tools, the Wii™ may be most effective when used at the right time with the right client. It may not be appropriate as a blanket intervention for all youth.

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