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An Evaluation of Therapeutically Applied Role-Playing Games for Psychological and Social Functioning Amongst Youth/Young Adults

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AN EVALUATION OF THERAPEUTICALLY APPLIED ROLE-PLAYING GAMES FOR PSYCHOLOGICAL AND SOCIAL FUNCTIONING AMONGST YOUTH/YOUNG ADULTS.

A Thesis

Presented to the

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In Partial Fulfillment

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ABSTRACT

Tabletop role-playing games (TTRPGs) are “a collaborative narrative game where group members role-play a character that they create in order to solve puzzles, uncover treasure, and defeat monsters in a fictional environment that is created together using formal rules and participation structures'' (Davis & Kilmer, 2020). TTRPGs have begun to increase in popularity and evoke new interest in exploring whether these new treatment modalities result in positive mental health outcomes. Specifically, therapeutically applied role-playing games (TARPGs) are TTRPGs that integrate therapeutic mechanisms in order to promote improved psychological and social functioning. The goal of the present study was to examine and understand the outcomes of TARPGs for psychological and social functioning in youth/young adult populations utilizing participant and parent data. Data was collected as part of quality improvement procedures from a nonprofit organization and were obtained for the purpose of the present study. Results revealed small decreases on measures of empathy ($d = 0.43$) and self-esteem ($d = 0.24$) for youth. Evaluation of parents indicated that no changes were observed on the measured scores. Results from the present study, while limited, still yielded important implications for the utility of TARPGs for youth/young adult populations. Future research should continue to expand the limited research on TARPGs as a clinical intervention to determine the efficacy of TARPGs as an evidence supported intervention.

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CHAPTER ONE

INTRODUCTION

TTRPG Background

Tabletop role-playing games (TTRPGs) have recently experienced a resurgence in public interest since the game genre's inception in the mid-1970s. TTRPGs have dramatically increased in popularity as a consequence of live streaming platforms such as Twitch.tv and increased public exposure on shows like *Stranger Things*. Additionally, with the fifth edition release of the highly popular *Dungeons and Dragons* TTRPG, the game's publisher Wizards of the Coast wanted to provide greater accessibility to new groups of players which led to new player growth (Shepherd, 2021). TTRPGs have been defined as "a collaborative narrative game where group members role-play a character that they create in order to solve puzzles, uncover treasure, and defeat monsters in a fictional environment that is created together using formal rules and participation structures" (Davis & Kilmer, 2020). Facilitation of TTRPG's are typically conducted through a game master (GM) and randomizing agent (i.e., dice) to help determine the outcomes of the collaborative group narrative. As stated by Daniau (2005), the GM is primarily responsible for four dimensions of a TTRPG; context (the world and group narrative), properties (application of rules and gaming playability within the context), progress (encouraging interaction with scenarios through simulation of role-play), and functions (group cohesion and coherence the shared group imagination). This TTRPG group setting provides

participants with the ability to increase multiple psychosocial skills through a character identity, social engagement, and an imaginative narrative. Concurrent to TTRPG's explosion in popularity, new mental health research interests have begun to evaluate the utility of TTRPG's mechanisms and application in therapeutic settings. Therefore, with this newfound interest and promising initial research, further analysis on the emerging evidence and utility of TTPRGs in therapeutic application is needed to explore whether these new treatment modalities result in positive mental health outcomes. The following section exhibits how TTRPG's are typically conducted and what interactions transpire between players within different scenarios.

Example TTRPG Gameplay

Game Master (GM): *You continue to pass through the undergrowth on the dimly lit dirt path. Brilliant light from the shining moon pierces through the lattice of leaves illuminating the foreboding trees with limbs overhanging the path. As you pass through this harrowing forest you notice a small pasture illuminated by the glowing gleams of light. A large hunk of stone erupts from small patches of sward. Atop the protruding rock you all notice a mangy furred beast that clasps the rock with its razor-sharp claws. Its toothy maw is revealed as it curls its gums revealing red stained teeth. The matted fur on the creature emanates a scent through the forest that was reminiscent of rust. The creature arose to stand bipedal on the rock and cocks back its muzzle in order to unleash a blood curdling howl. What would you like to do?*

Player 1 (playing Gareth): *I want to hide in a tree that is as close to the pasture as I can. I have a bad feeling about that creature.*

Player 2 (playing Riva): *I think we should charge at the creature. I know with my bow and arrow I can sharpshoot any monster.*

Game Master (GM): *OK, one at a time. Gareth, you wanted to climb a tree?*

Player 1: *Yeah. I think it will give me a better vantage point and safety from the creature.*

GM: *Make an Acrobatics check (A player rolls a dice coordinating to an innate player skill).*

Player 2 (rolling a twenty-sided dice)*: Ugh. Six.*

GM: *You are able to shamble up the tree but only seven feet off the ground. And, Riva is going to fire a volley of arrows?*

Mechanisms of TARPGs

Therapeutically applied role-playing games (TARPGs) are TTRPGs that integrate therapeutic mechanisms (e.g., desensitization, mindfulness, cognitive restructuring, and social feedback) in order to promote improved psychological and social functioning. Many mechanisms contribute to the possible emerging evidence and utility of TARPGs; hence it is important to enumerate as to what and how the therapeutic mechanisms function within a TARPGs treatment.

An important therapeutic concept that is integrated through TARPGs is the structure of group therapy. GM's act as both therapist and game facilitator to help facilitate and create a social environment that is ideal for furthering therapeutic

change. Group members have opportunities to interact socially with each other or non-playable characters (NPCs). NPCs are characters that are controlled and maneuvered by the GM. This allows the GM to have more direct control of the TARPGs collaborative narrative by creating problems that mimic the players' real lives through NPCs. Many players that participate in therapeutic role-playing groups will have prior maladaptive interpersonal and social skills that have created difficulties for them throughout their lives. The GM is able to directly observe players and conceptualize how players respond to social interactions during gameplay through imitation and enactment of real-world problems that they have encountered. Through group socialization and interpersonal development during gameplay, supportive dynamics can help to initiate corrective recapitulation experiences for players (Bean et al., 2020). Corrective recapitulation experiences occur in group therapy and creates a dynamic that corrects past negative family and childhood events within the safety of a group, allowing for relief of unhelpful behavioral patterns learned in the primary family group (Yalom & Leszcz, 2020). Thus, this allows for players to heal from prior experiences and develop new adaptive behavioral changes (Bean et al., 2020). This is also reinforced further as TARPG groups construct settings for players to experience vicarious learning, modeling, and behavioral rehearsal of adaptive behavioral changes. Players will be able to participate in a game structure that empowers players to make mistakes and learn that actions have consequences without any real-world negative implications. Additionally, the GM or players can

provide differing perspectives or feedback to allow group members to promote individual and group insight to address prior ineffective interpersonal and social skills. Players that participate in TARPGs may benefit from building confidence through new social/communication skills, cohesion in social groups, and challenge prior negative beliefs (Bean et al., 2020). Moreover, TARPGs create a unique environment for engagement and community connection through psychological spacing and participation in a fantasy setting. This allows individuals to engage more authentically by promoting expression of previously repressed emotions. Thus, players can apply their developed social skills to participate in authentic forms of social connectedness, and collaboration enabling reductions for adverse mental health outcomes in (Abbott et al., 2021; Daniau, 2016; Steiner, 2019). Overall, the group setting of TARPGS allows players to improve psychological and social functioning.

Uniquely TARPGs integrate a myriad of mechanisms used within exposure therapeutic techniques. One of the main goals of exposure therapy is to help clients reappraise situations and approach these avoided experiences with reduced anxiety through building their self-efficacy (Beck, 2011). Exposure is then conducted when a therapist learns to identify the pattern of avoidance and help reverse this pattern (Tolin, 2016). This is then conducted in a TARPG when the therapist GM can learn this pattern that players could exhibit. During TARPG fantasy role-play, players can utilize their character to regulate the processing of emotions and thoughts. Player characters can utilize distance which allows the

individual to take the characters action into perspective and separate the characters action from themselves (Rosselet & Stauffer, 2013). This empowers players to work through an initiated problem (administered by a therapist GM) that is both in vivo and imaginal to be worked on with better distance than in real life situations. Thus, TARPGs create a new safe environment for players to gain exposure to avoided situations and gain empowerment through role-play on how to better process and confront avoided experiences. Conclusively, this could allow players to improve their psychological and social functioning in TARPG treatment through exposure and skill based therapeutic mechanisms.

Additionally, another mechanism that is influential within TARPGs is the component of player-character identity. TARPGs allow for the exploration and consciousness raising for individual players' identity formation. Identity allows the individual to comprehensively evaluate the personal traits and expressions that comprise who they are and what groups they respectively belong to. Players can create and control their player-character actions that allow players to integrate elements of their identity into the fantasy realm (Shepherd, 2021). For example, research on the utilization of TARPGs for identity formation has demonstrated that players participating in gameplay have been able to better understand themselves, explore new social interactions, and experiment with new ways of expressing themselves (Goodall & Truong, 2021). Additionally, through group facilitation the GM is able to help characters feel safe while players gain further awareness on aspects of their identity that they would like to change in their life

(Shepherd, 2021). While the GM guides players, they are able to experience and mix their own emotional responses between their real identity and their created player-character identity. This process of players projecting thoughts and emotions creates an internalized interplay relationship between player and character known as bleed. Bleeding-in is the phenomena when a player's thoughts and emotions are projected onto their player-character, whereas bleeding-out refers to when a player-character's thoughts and emotions affect the player (Bowman, 2010; Leonard, 2018; Zagal & Deterding, 2018). For example, bleeding-in can be experienced when a player is triggered by a frightening monster that causes the player to have an emotional reaction to their player-character's experience. An instance of bleeding-out that can be experienced when a player feels a sense of pride after an accomplishment in game or has deepened care towards other characters in a game (Bean et al., 2020). A positive bleed-out experience can be especially important in order to help create and strengthen relationships within a shared community (Leonard, 2018). The mechanism of bleed is the greatest tool a therapeutic GM could use to further enhance and explore player identity while participating in TARPGs (Bean et al., 2020). Hence, the use of TARPGs could allow players overall to experience bleed and further develop their own identity while participating in the fantasy role-play of a TTRPG.

Throughout the facilitation of TARPG treatment, many mechanisms included within Cognitive Behavioral therapy (CBT) are integrated as a

techniques during gameplay. CBT frequently utilizes evidence-based psychological techniques in order to help individuals change thoughts or behavioral patterns that cause difficulties in their lives (Beck, 2011; Tolin, 2016). Many players that participate in TARPGs will experience difficulties with their own maladaptive thoughts and behaviors. The GM can help to facilitate a game environment where players could identify and challenge thoughts that are unrealistic and unhelpful to believe. This is further curated for players in a safe space where they are sheltered from consequences and can learn from natural consequences that mirror reality (Bean et al., 2020). After the GM assesses players exhibiting healthy environmental responses (thoughts, behaviors and emotions) they are positively reinforced by completing quests with the goal of positive imaginary monetary gains. Additionally, TARPGs can also become socially reinforcing for players through behavioral skills that effectively meet the needs of a given situation. For example, a fantasy adventure where a group of players try to slay a dragon could also help to provide contrary evidence to a player's core belief that they are not helpful. Thus, CBT technique interventions can be utilized within TARPG treatment as a mechanism to evoke therapeutic change for players.

The third wave cognitive therapy, Acceptance and Commitment Therapy (ACT), has several practices that are naturally coalesced in the processes of a TARPG treatment. ACT's core goals are to help individuals become more present in their lives, be open to experiences, and take action based on their

values (Harris, 2009). A central aspect of character creation is formulating player-designed values. These values allow players to act consistently or flexibly test any set of values further invoking insight for others' ideals (Bean et al., 2020). Furthermore, TARPGs also utilize the concept of defusion in order to separate players from their character's thoughts, emotions, and actions. This teaches players how to avoid becoming fused with their character identity and apply defusion skills to their own problems in reality. Similarly, players can also learn to observe and accept their own thoughts and feelings without being rigidly hooked by them. Finally, GMs can also design gameplay that helps players to be more mindful of their environment and act according to their player-characters or personal values (Bean et al., 2020). As a consequence of all these integrated skills in TARPGs, the core messages of ACT help players to learn how to live a purposeful life while accepting the inevitable and ubiquitous psychological pain that occurs in everyday life (Bean et al., 2020; Harris, 2009). Overall, the totality of effective evidence-based therapeutic mechanisms that are integrated into TARPGs has evoked further research for specific populations.

Young Adults and Youth

Many youth struggle with expressing and communicating their own thoughts and feelings (Crenshaw, 2015). In addition, proper development of prosocial behaviors in youth is crucial as a means to promote less emotional distress and better relationship competence (Wentzel & McNamara,1999). Youth can benefit from high levels of engagement in more expressive and play based

techniques to promote improved communication and expression (Crenshaw, 2015). Uniquely, TARPGs offer the opportunity for youth and young adults to work on their personal identity, functioning, and awareness of social rules through the use of psychological distance between separated character and self-identity (Rosselet & Stauffer, 2013). Similarly, TARPGs have helped youth and young adult populations to increase their empathy, self-esteem, and promote better prosocial behavior competence (Abbott et al, 2021; Bagès et al., 2021; Bowman, 2014; Chung, 2013; Daniau, 2016; Goodall & Truong, 2021; Katō, 2019; Rosselet & Stauffer, 2013; Rivers et al., 2016). Thus, as TARPGs can integrate a multiplicity of previously stated mechanisms, it is important to analyze the most beneficial psychological and social components that youth and young adults have benefited from participating in TARPG treatments.

Empathy

Empathy is a social skill that directly impacts prosocial behavior and has been defined as the capacity to comprehend and experience the emotions of another person (Jolliffe & Farrington, 2006). Research has demonstrated that youth and young adults that have decreased empathy are associated with increased aggressive and antisocial behaviors leading to peer bullying (Jolliffe & Farrington, 2006). Conversely, research has demonstrated that higher empathic skills are associated with more frequent helping between others (Jolliffe & Farrington, 2006). Thus, empathy is a crucial psychosocial process that, in research specific to TARPGs, has been shown to positively increase in youth and

young adults with intervention (Bagès et al., 2021; Rivers et al., 2016). Due to the nature of TARPGs, players have multiple opportunities to develop empathy through player bleed, perspective-taking, and motivation for empathetic concern.

A recent quantitative study by Bagès et al., (2021) evaluated the emerging evidence of TTRPGs as an intervention to reduce bullying among eighty-six French sixth-grade youth. Youth participants were randomly assigned to an experimental group of empathetic intervention training programs with three 60-minute TTRPG sessions or a control condition group with videos that discussed bullying. Youth participants were assessed via a pretest and posttest design, this was first conducted on the first week and then on the last tenth week for levels of empathy, bullying, and aggressive behaviors. Results revealed a significant increase in the level of empathy and a significant decrease in bullying and aggressive behavior for those students who participated in the RPGs group versus no significant changes in the control group. Additionally, participation in the TTRPG group helped participants to reduce bullying behaviors amongst their peers and increase their motivation to prevent further aggressive behavior towards possible victims of peer bullying (Bagès et al., 2021).

Another study by Rivers and colleagues (2016), examined individuals that participated in various fantasy role-playing (TTRPG, online games, or both) and their levels of empathy and absorption. Absorption was defined as a player's ability to stay completely attuned and absorbed with their character player's experience when interacting with a fantasy role-playing environment and other

players. Within this study there were 128 various fantasy role-playing adult participants who were surveyed via the measures Davis Interpersonal Reactivity Index (empathy) and the Tellegen Absorption Scale (absorption) through Psychdata.com. A comparison group was utilized from the original Davis IRI study of a normative sample to compare empathetic levels between the two groups. The results demonstrated that those who play fantasy RPGs scored significantly higher than the Davis IRI comparison group on the measure of empathy, confirming the hypothesis that fantasy role-players report experiencing higher levels of empathic involvement with others than a normative sample. Study results indicated that participants that played TTRPGs scored significantly higher on the empathy measures indicating higher empathetic involvement between others and themselves (Rivers et al., 2016). Additionally, results of a correlation analysis revealed that empathy was positively correlated to absorption that is experienced while playing TTRPGs. Consequently, these results collectively suggest that players of RPG's have a uniquely empathically imaginative style and could potentially be useful for clinical purposes (Blackmon, 1994; Rivers et al., 2016). In essence, recent correlational and quantitative research has supported the idea that TARPGs could be beneficial in order to help increase empathy amongst youth and young adults.

Self-Esteem

Another psychological outcome that has been observed to have increased for youth and young adult players when participating in TARPG's treatment groups is self-esteem (Bowman, 2014; Daniau, 2016; Goodall & Truong, 2021). Self-esteem has been defined as the positive or negative attitude towards the self and the connotation is based on self-appraisal of being "very good or good enough" (Rosenberg, 1965). Self-esteem is regarded as a positive indicator of social acceptance in interpersonal group context and motivates the individual to regulate their own behavior into a more adaptive accepted function (Leary, 1999).

Presently, research has been conducted on the transformative utilization of TTRPGs in educational settings (Daniau, 2016). A study conducted by Daniau, 2016, reviewed both an ongoing qualitative research and a comprehensive literature review analyzing the uses of transformative role-playing games (TFRPGs) and Educational Role-Playing Games (EDU-RPGs). The aim of this study was to explore the transformative potential of TRPGs through a comprehensive literature review and further raise awareness of its utilization in education and other settings (Daniau, 2016). Daniau reviews the literature and theorizes that TFRPGs/EDU-RPGs are most effective with the best outcomes based on four main qualities which include; conditions for success of TRPGs (small groups, playing duration, playful atmosphere, confidentiality, imagination, and learning process), properties of a RPG (game world, rules, scenario, identity

exploration, and interactions), progress of an RPG (how players deal with uncertainty, rules, personal engagement, pretending, and transfer learned skills), and functions of RPGs (create a community, solve problems, develop creativity, or personal development) (Bowman, 2014; Daniau, 2016). The purpose of these core constraints is to help enact TRPGs as a tool for active learning for youth in order to assist their personal development in a community through cognitive, affective, and behavioral skills (Daniau, 2016). Daniau, based on her review of existing research on TFRPGs/EDU-RPGs and her existing research attempts, makes the bold statement that “Not only do the TF-RPG carry a real transformative potential, but it also fosters a desire (within participants) to discover, encourage self-confidence in spontaneity and improvisation, support empathy and distancing abilities, helps to build upon new interests and to reevaluate our relationship to the learning process” (Daniau, 2016, p. 439). However, Daninau’s statement is not based on present existing empirical evidence and is formulated based on her own conjecture supported by present theory within the literature review. Thus, the utilization of TTRPGs as a transformative or educational tool in order to help improve feelings of self-competence and self-esteem through in-game achievement, allowing for youth to feel empowered and have a greater sense of self-efficacy needs further research (Bowman, 2014; Daniau, 2016).

Additionally, a study using TTRPGs evaluated the preventative possibilities to help youth and young adults with social exclusion (Goodall &

Truong, 2021). Researchers conducted in-depth semi-structured interviews with nine participants that qualitatively evaluated their lived experiences and the possible impact TTRPGs had helped within their lives. These participants were asked questions about three core themes: descriptions of TTRPG experiences, how TTRPGs helped them overcome difficult or challenging life experiences and describing the role and place of TTRPGs in their lives since their initial encounters. Results yielded multiple therapeutic effects from TTRPGs and indicated that participation in play allowed participants to explore themselves, exploring the world around them, building self-confidence, investigating issues, improving overall well-being and encouragement to build healthy social relationships (Goodall & Truong, 2021). This study further elaborated on the therapeutic qualities of TTRPGs that through play, participants were able to develop self-expression skills and a greater sense of self-advocacy, allowing for them to feel empowered to support their own interest (Goodall & Truong, 2021). Conclusively, these research findings indicate that TTRPGs could be used as a therapeutic tool in order to encourage transformative change for youth self-esteem through participation in TARPGs groups.

Social Functioning

Certainly, one of the most important psychosocial components that TARPGs have demonstrated to improve for youth and young adults is social functioning competency (Abbott et al., 2021; Daniau, 2016; Katō, 2019). Social functioning has been defined as the individual ability to effectively interact with

one’s environment and fulfill roles within interpersonal relationships, work environment, and social activities (Bosc, 2000). Growth and development of prosocial behaviors to promote social functioning is crucial to promote less emotional distress and better relationship competence (Wentzel & McNamara,1999).

For example, TARPGs have been used within youth populations with autism spectrum disorder (ASD) to improve social functioning and quality of life (Katō, 2019). In one of the two research studies conducted by Katō (2019), four youth ASD children participated in 16 sessions of TTRPG activities with no control group. Qualitative data was analyzed of children's communication behaviors that were recorded (and additionally transcribed) and coded as intentional speech towards other children and speech not directed at other children (speech delivered through the GM or support staff, monologue, etc.). In addition, another feature analyzed qualitatively was making collective group decisions through negation that was defined as “consensus making” Results indicated that following a 16-week treatment with TARPGs, the four children with ASD were able to gain social skills that improved their own intentional speech-communication and cooperative interactions amongst their peers (Katō, 2019). These results provide preliminary evidence for the premise that using TTRPGs could help to promote intentional communication and cooperative interactions (consensus making) with children and youth with ASD that might be applied as well to other youth groups (Katō, 2019). This is further supported by other

components of TARPGs that can improve social functioning such as “conflict resolution, diplomacy, teamwork, leadership, relationships, debating/speaking skills, and spontaneous problem-solving” (Daniau, 2016, p. 437).

Additionally, TARPGs have been presented to help increase confidence in social situations and transfer skills practiced in game to real life (Abbott et al, 2021). A year-long pilot program conducted by Abbott et al., (2016) documented and reflected experiences of three group participants who participated in a TTRPG group. Qualitative data was collected from semi-structured interviews of participants and journal notes/discussions completed by (pilot program developers) that were documented for the TARPGs activity and reflection of group process. Additionally, two researchers not affiliated with the pilot program completed qualitative interviews in order to measure the successes and overall impact of the TARPG pilot program's impact. Researchers found many themes that emerged from the three players including perceived improvements in confidence building, learning to manage confrontation better, acceptance of mistakes, ability to transfer skills learned from TTRPGs into reality and practice the best version of themselves. Participants provided valuable insights into their experiences and how their perceived social improvements were provided through a different way to participate in the therapeutic process (TARPG). Furthermore, this study conveyed the possible therapeutic potential and future recommendations for clinicians who utilize TARPG implementation to help others through these groups as a therapeutic modality (Abbott et al, 2021).

Researchers have also found success using TTRPGs for youth populations to help develop group problem solving skills to navigate social environments and emotional self-regulation skills (Rosselet & Stauffer, 2013; Zayas & Lewis, 1986).
Researchers have also found success using TTRPGs for youth populations to help develop group problem solving skills to navigate social environments and emotional self-regulation skills (Rosselet & Stauffer, 2013; Zayas & Lewis, 1986).
An exploratory study focused on a specific case study evaluation of an Adlerian play therapy TTRPG intervention group that provided services for gifted youth with an IQ of 130 or more. Researchers used Adlerian play therapy techniques integrated with TTRPGs to help researchers integrate intra and interpersonal skills as a possibly effective way to intervene with gifted youth. Due to the semi-directed nature of Adlerian play therapy and other Adlerian therapeutic mechanisms, researchers believed it would be best to use integration of TTRPGs as an intervention to help gifted youth and adolescents develop and practice social and emotional self-regulation skills. The purpose of this study was to promote social interaction, provide emotional psychoeducation, and training to gifted participants that participated in this intervention. Participants (six to twelve per game) engaged in the intervention on weekend workshops once a semester for the youth members. A specific case study on a participant who exhibited anxious and aggressive behaviors (difficulty regulating emotions and appropriately responding to others) received this intervention over the course of four weekend sessions. After four sessions results from a case study on one of

the participants indicated that group collaboration and play helped to improve one youth participant's social and emotional development (Rosselet & Stauffer, 2013). Additionally, the participant had increased performance at school and their overall interactions socially with their family. While conclusions from case studies need to be limited, the researchers postulate that with Adlerian concepts TTRPGs as a play therapy approach could help gifted youth and adolescents develop better communication, collaboration, and emotional regulation skills (Rosselet & Stauffer, 2013). Thus, research on social functioning benefits has indicated that therapeutic applications of TTRPGs could further yield benefits for multiple social functioning skills within youth and young adults, including those from neurodiverse backgrounds.

Parental Perceptions

Parental satisfaction and perception are also important to consider due to parental expectancies and treatment satisfaction having an impact on children's treatment engagement and outcomes (Acri, 2016). This recent study on parental perceptions was conducted amongst 320 youth and parents in order to evaluate children's engagement in treatment of mental health services and parental satisfaction of treatment. Pre and post data analysis yielded results that indicated that parental expectations and satisfaction with treatment accounted for positive impacts on the child's treatment engagements and more positive child treatment outcomes (Acri, 2016). This indicates that parental perceptions of treatment on their children could possibly impact the positive treatment outcomes for their

children. Additionally, a research study focused on inpatient and outpatient parental satisfaction assessed 1278 parental caregivers with children utilizing mental health services from 1992 and 1997.

Results have also supported that there is a positive association between parental satisfaction and symptom improvement in youth and young adults with mental health needs (Rey et al., 1999). Moreover, it has also been found that parental expectations of treatment can predict premature termination and influence child characteristics for treatment engagement (Nock & Kazdin, 2001). Although there are positive psychosocial outcomes for youth TARPG treatments, parental perception and satisfaction of child growth should be a critical consideration because parental satisfaction and perceptions may help with retention and improvement throughout treatment (Acri, 2016; Nock & Kazdin, 2001; Rey et al., 1999). For TARPGs specifically, no research has investigated parental perception towards their child engaging in this treatment, leaving a gap as to whether parental satisfaction and perceptions influence treatment retention and post-treatment growth. Thus, it would behoove researchers to consider how parental perceptions and satisfactions impact youths' growth and development during participation in TARPG groups.

Present Study

Due to the reviewed research evidence supporting TARPGs possible role in the improvement of psychological and social functioning within youth and young adults, the present study is proposed to further examine potential TARPG

mechanisms responsible for observed positive outcomes in youth. Therefore, the purpose of this study is to evaluate the effectiveness of TARPGs by examining pre- and post-test data from group participants and their caregivers. This will be conducted by examining changes in participants' levels of empathy, self-esteem, prosocial behavior competence, and social functioning after participation in a TARPG intervention group. Study hypotheses are as follows: 1) Youth/young adult participants in a six-week TARPG group will report improvements in levels of empathy, self-esteem, prosocial behavior competence, and social functioning as evidenced by changes in their pre- and post-scores; 2) Parental perceptions of improvement will be observed on measures of empathy, self-esteem, prosocial behavior competence, and social functioning as observed by changes in pre- to post-test scores following their child's participation in a six-week TARPG group. With significant findings, this study would demonstrate preliminary evidence for the utility of TARPGs as an intervention for youth and young adults that promotes psychological and social skills growth.

CHAPTER TWO

METHODS

Participants

As this is archival data, participants are not recruited as part of this study. Data was collected as part of quality improvement (QI) procedures from a nonprofit organization that provides therapeutic social skills groups for adolescents and adults. The data was collected from youth/young adult participants (N = 9) and parents (N = 29) of youth/young adult participants' (M = 14, SD = 3.60) ages ranging from 10-19 years of age. Out of the youth/young adult participants reported demographic information including gender (Male = 8; Female = 1), identified as transgender (Yes = 1; No = 8), ethnicity (Asian or Pacific Islander = 11.1%; White or Caucasian = 66.7%; Prefer not to answer = 11.1%; Other = 11.1%), sexual orientation (Questioning/unsure = 33.3%; Straight/heterosexual = 66.7%). Parent participants reported demographic information including relationship to youth/young adult (Parent = 29), parents perception of youth/young adult gender (Male = 22; Female = 4; Non-Binary = 1; Questioning or Unsure = 2), parents perception of ethnicity of youth/young adult identifying as transgender (Yes = 3; No = 26), parents perception of ethnicity of youth/young adult (Hispanic or Latinx = 3.4 %; White or Caucasian = 62.1%; Other = 34.5%), parents perception of youth/young adult sexual orientation (Gay/lesbian = 3.4%; Questioning/unsure = 17.2%; Straight/heterosexual = 51.7%; Prefer not to say = 17.2%; Unknown = 10.3%). This archival dataset was

created by participants participating in a therapeutic social skills group and their data was collected prior and after the intervention.

The intervention consisted of therapeutic social skills groups, composed of 4-6 individuals (players) and one therapist (GM), that met once weekly for 90 minutes. Participants were recruited via the nonprofit organization's (Game to Grow) website, conventions, referrals from word of mouth, therapists, pediatricians, and school counselors. Group members were admitted to therapeutic social skills groups on a rolling basis through 9-12 week quarters. The structure of the therapeutic social skills groups consisted of a 10-minute check-in where the therapist asked individuals questions such as "What's the weirdest thing you've ever eaten?", "What is something you're proud of?" and "What is a trait you look for in a friend?". Then, a 75-minute game session wherein group members navigated an in-game scenario was facilitated. Finally, a 5-minute check-out was conducted where questions were asked from the group members regarding challenges in the game, what they learned, what they predict for the next session, and what they are hopefully for the next session. Therapeutic social skills groups sessions are modeled to maximize the five core capacities of group members; **regulation** (e.g. managing excitement and stress through appropriate coping) **collaboration** (e.g. communicating verbally and nonverbally with peers/group leaders), **planning** (e.g. setting goals and adapting plans to evolving circumstances), **perspective** (e.g. identifying, considering, and responding to others' views), and **pretend play** (e.g. practicing real world skills

that transfer outside of the game) (Davis & Kilmer, 2020). This treatment is not manualized and is adapted differently based on the participants and narrative of the TTRPG. Goals are implemented based on the understanding of each of the individuals in the group and the needs of the therapeutic social skills. Multiple goals can be introduced into the narrative such as an individual that needs to listen more and an individual that needs to speak up more. In this example the Therapist (GM) would role play an NPC to interact more with the individual that needs to speak up more and decrease NPC interaction for the individual that needs to listen more.

Materials

Demographics Questionnaire

A brief data sheet in which participants are asked to indicate their gender, race, ethnicity, sexual orientation, and relationship to the participant.

The Basic Empathy Scale/BES

The BSE is a 20-item measure that assesses levels of affective empathy and cognitive empathy. The measure uses a 5-point Likert Scale (1 = Strongly agree, 2 = Agree, 3 = Neutral, 3 = Disagree, 5 = Strongly disagree) to examine participants' interpersonal competency with empathy. Example statements include: “My friend’s emotions don’t affect me much.” A psychometric study for the BES found good internal consistency for the BES with a school sample with alpha coefficients with .90, .85, .93 for total, affective, cognitive respectively (Pechorro et al., 2017). The authors provide evidence for construct validity for the

BES where the total correlates to the Interpersonal Reactivity Index (IRI) total 0.53 for men and .43 for women (Davis, 1980; Pechorro et al., 2017).

Rosenberg Self Esteem Scale/RSES

The RSES is a 10-item measure that assesses overall feelings of self-worth or self-acceptance (global self-esteem). The measure uses a 4-point Likert Scale (1 = Strongly agree, 2 = Agree, 3 = Disagree, 4 = Strongly disagree) in order to measure global self-worth through agreement on positive and negative statements about the self. Example statements include: “On the whole, I am satisfied with myself” (Rosenberg, 1965). The scale has good predictive validity, as well as internal consistency and test–retest reliability. A psychometric study for the RSE found good internal consistency with a four-year college graduate sample with an alpha coefficient of .92 and a .91 in a mixed demographic United States population (Sinclair et al., 2010). The scale also demonstrated good discriminant validity when assessed with the Social Relationships Scale from the Participation Measure for Post-Acute Care (PM-PAC) (Sinclair et al., 2010). In addition, the RSE established clinical constructive validity through negative correlation with measures of stress, anxiety, and depression (Sinclair et al., 2010).

Strength and Difficulties Questionnaire/SDQ

The SDQ is a 25-item measure that assesses emotional and behavioral problems for children and young people. Each of the 25-items are divided into five separate subscales of five items each that measure: emotional symptoms,

conduct problems, hyperactivity/ inattention, peer relationship problems, and prosocial behavior. Example statements include: “I am considerate of other people's feelings” (Goodman, 1997). The internal consistency for the SDQ was acceptable with alpha coefficients of 0.82 and 0.80 for the total scale score for the SDQ parents and youth. The six subscales of the SDQ had more variability with the low being 0.41 for peer problems and a high 0.85 for impact. For the current study, the total SDQ score will be used. The authors provide validity for the SDQ by presenting data where the SDQ predicted relevant DSM-IV diagnosis groups (Goodman, 2001).

Procedure

Participants and caregivers are asked to voluntarily complete surveys at the start and end of each six-week TARPG group (therapeutic social skills group). Prior to beginning the surveys, caregivers and participants were informed that the purpose of the surveys was to improve quality of services at the nonprofit organization, and they could be used for future research. Youth participants could not access the surveys without caregiver consent. All archival data received from the nonprofit organization was de-identified and researchers did not have access to participant protected health information. After the data was transferred to the researchers, all the information that was collected was inputted into the Statistical Package for the Social Sciences (SPSS).

Design

This study examined the pre- and post-archival data of youth/young adults and parents after participation in a nonprofit organization's therapeutic social skills groups (TARPG). This archival data was analyzed using SPSS. When analyzing outcome differences pre- and post-treatment for youth, Cohen's d will be calculated to determine effect size for changes on pre- to post-measures. Specifically, for the youth/young adult group participants effect sizes will be calculated for score outcomes on empathy, self-esteem, prosocial behavior competence and social functioning. For parent participants, effect sizes will be calculated for pre- and post-measures for score outcomes on empathy, self-esteem, prosocial behavior competence, and social functioning.

CHAPTER THREE

RESULTS

Cohen's d was used to examine the effect size for changes on pre- to post-measures of empathy, self-esteem, prosocial behavior competence, and social functioning among youth/young adult participants. Means for youth/young adult participants' self-reported levels of pre-treatment was 24.44 (SD = 2.70) on the RSE, 59.33 (SD = 5.15) on the BES, and 18.00 (SD= 5.84) on the SDQ (see Table 1). Using Cohen's d to calculate treatment effect sizes through benchmarks of small (d = 0.2), medium (d = 0.5), and large (d = 0.8) that were suggested by Cohen (1988) for this type of analysis. At posttreatment of the six-week TARPG group, youth/young adult participants' mean RSE score was 23.60 (SD = 1.23). Results revealed small decreases in levels of empathy (d = 0.43) for youth/young adult participants. On the RSE, youth/young adult participants' posttreatment score was 58.33 (SD = 2.92), also indicating a small decrease in levels of self-esteem (d = 0.24). Finally, on the SDQ, youth/young adult participants' posttreatment score was 17.11 (SD = 6.13), indicating no difference in prosocial behavior competence, and social functioning (d= 0.15).

Parental participants' self-reported levels at the beginning of treatment were 23.470 (SD= 1.51) on the RSE, 60.84 (SD= 3.61) on the BES, and 18.70 (SD = 3.98) on the SDQ. At posttreatment of the six-week TARPG group, parental participants' mean RSE score was 23.73 (SD=1.86). Parental participants reported no perceived increase in levels of empathy in the child

participants (d = -0.02). On the RSE, parental participants' posttreatment score was 60.60 (SD = 4.22), also indicating no perceived increase in levels of self-esteem in child participants (d = 0.06). Finally, on the SDQ, parental participants posttreatment score was 18.25 (SD = 4.35), indicating no perceived difference in prosocial behavior competence, and social functioning (d = 0.11). (See Table 2).

CHAPTER FOUR

DISCUSSION

The results from the present study did not provide support for the utility of TARPGs as an intervention to promote psychological and social skills growth in youth/young adult populations. The purpose of this study was to evaluate the preliminary efficaciousness of TARPG's as an intervention through an analysis of pre- and post-test data from group participants and their caregivers. The examination involved the investigation of archival data from a six-week TARPG's social skills group to evaluate changes over time in measured outcome assessments. These predictions led to an analysis of the postulated hypotheses, which were based on a comparison of pre- and post-intervention results. Firstly, it was anticipated that youth/young adult participants in the intervention of a TARPG group would report increased improvements in levels of empathy, self-esteem, prosocial behavioral competence, and social functioning. Secondly, it was expected that parental perceptions of improvement would be consistent with youth scores as observed on measures of empathy, self-esteem, prosocial behavior competence, and social functioning following their child's participation in the intervention of a TARPG group. Overall, this research found modest support for the first hypothesis and found no evidence for the second assumption.

Contrary to previous research, the present study did not demonstrate preliminary evidence for the utility of TARPG's for that of youth/young adults participants (Bagès et al., 2021; Rivers et al., 2016). Specifically, youth

participants experienced a small decrease in empathy levels after participation in a TARPG group. These findings imply that the crucial psychosocial skill of empathy was not observed to improve and was seen to have moderately decreased through participation in TARPG intervention. An explanation for this result is that TARPGs are an analog for real life interactions and allow the actions players participating in the game to be directly influenced by how they are acting as themselves. This is further displayed by the concept of bleed where players are able to project (bleed) aspects of themselves into their character within the game. This can allow the actions they take to directly affect their thoughts and emotions (Leonard, 2018). In this treatment, the scenarios that were provided during the TARPG sessions may have made it more difficult for the players to experience empathy increases as player freedom of choice may have subverted the planned opportunities at improving empathy. While there are bidirectional exchanges between characters, the group dynamic and environment may not have been supportive enough to the participants to create the opportunities for players to socially comprehend and experience the emotions of another player in the game. Additionally, this group environment could have caused non-harmful participant discomfort, making it so players did not feel invited to express empathetic skills they were learning in treatment. These results should further be explored in a larger, more representative sample and redetermined for clinically significant increases in empathy.

Findings from the present study did not show that participation in the TARPG group resulted in any increase in self-esteem in the current youth/young adult sample. These findings do not corroborate previous conjecture of a literature review and additional research showing that TARPGs game groups may result in increased self-esteem (Daniau, 2016; Goodall & Truong, 2021). A small decrease in self-esteem suggests that therapeutic mechanisms (e.g., interpersonal engagement, skills mastery, and social feedback) could be less impactful within this modality, which should help deconstruct a participants world-view for negative self-appraisals. To potentially increase self-esteem, it would be important to help target cognitive beliefs that construct a client's worldview in order to better improve positive self-appraisal within the TARPG intervention. This could be better expanded on in further research which would seek to accurately determine how to structure a TARPG invention and utilizes therapeutic mechanisms to improve player self-esteem. Furthermore, player belongingness is another potentially important consideration that could have moderately decreased player self-esteem. As suggested by previous evidence in the literature, more supportive dynamics can potentially provide corrective experiences for players where they can learn more adaptive behavioral patterns during gameplay (Bean et al., 2020). However, for a participant that is lacking in belongingness within the group dynamic, this could provide a negative experience where their maladaptive self-appraisals are further reinforced and does not allow them to feel valued within the group-setting. Future researchers

and clinicians should consider how player worldview and belongingness could impact self-esteem in addition to further integrating more therapeutic mechanisms in treatment that target beliefs that support negative self-appraisals.

Contrary to the study hypotheses, changes in prosocial behavioral competence and social functioning were not observed following participation in the TARPG group. In contrast to findings from other studies, the results did not demonstrate that prosocial behavioral competence and social functioning increases after participation in TARPG groups (Abbott et al, 2021; Katō, 2019; Rosselet & Stauffer, 2013). One likely explanation for this result lies in the measure of the Strengths and Difficulties Questionnaire (SDQ). The SDQ is a brief broadband screener that assesses the behavioral and emotional difficulties that could be experienced in youth and young adult populations (Goodman, 1997). Due to the broad assessment of the questionnaire that was used by this nonprofit organization for quality assurance it could come with many limitations. One reason for these limitations is that it is recommended by the authors of the SDQ that multiple informant assessments are a more optimal method in order to have better screening for behaviors and potential diagnosis (Goodman, 1997). Furthermore, the members of this sample did present with an average abnormal level of clinical symptoms on the SDQ. However, it is important to consider this perception of distress and functioning within the context of the population. While demographic information was not directly recorded for diagnosis, the archival data from a non-profit organization reported that many of the participants were

part of the neurodivergent population, primarily with Autism Spectrum Disorder and Attention-Deficit/Hyperactivity Disorder. Furthermore, this affects the generalizability of these research findings for non-neurodivergent youth. Due to the neurodiverse population, further accommodations for a therapeutic processing component should be considered for social skills retention and implementation within this context. Additionally, it could be beneficial to have a social skills processing component prior to the initiation of the group session to further emphasize the applicability of the skills being utilized in the TARPG intervention. Overall, these results for empathy, self-esteem, prosocial behavior competence, and social functioning, are limited due to the small sample size of nine participants, and encourage further researchers to replicate these studies findings with large clinical samples.

With regards to parental perceptions of benefits of TARPGs, there was no evidence of improvement on any of the observed measures of empathy, self-esteem, prosocial behavior competence, and social functioning subsequently after their child's participation in the TARPG group. While this result was inconsistent with study hypotheses, this finding does provide important considerations for TARPG groups that integrate parent child dyads. Parent-child agreement or disagreement on assessment is a crucial component that could have influenced the results of the data that was collected. It has been found that parent-child agreement on assessment can be attributed by three core components: behavior characteristics that are salient to the parent,

characteristics that are salient to the child, and observability/willingness to report on assessment (Karver, 2006). This suggests that modest improvements that are noticeable to a parent or child might make it harder to recall and therefore report on an assessment (Karver, 2006). As such, parents of children participating in a TARPG group may only have awareness of external behavior changes, but may be less aware of covert skills or changes following the TARPG group, such as internal perceptions of empathy and self-esteem. If parents are less familiar with the modality or game type of TTRPGs, they also may have less of an understanding on how many puzzles and in-game problem solving can provide assistance with skill growth (Kilmer, Kilmer, & Davis, 2021). Moreover, the focus that parents could have on perceptible behaviors could create challenges in assessment agreement when analyzing their youth/young adults experience after participation in TARPG intervention. This could inadvertently only reward parents that notice the more extreme behaviors and potentially overlook the more subtle changes that their youth parents could foster from TARPG treatment. Additionally, it is important to recognize that participants of the treatment (youth and young adults in this present study) are going to be more attuned and aware of their own intent in the TARPG intervention whereas the parents will not have as much awareness of the changes that fully take place during the treatment. Actual involvement in the treatment process will enhance the individual evaluator's ability to make a more accurate determination of the assessed behaviors to provide primary information on what perceived improvements have

been possibly made in TARPG treatment. While these experiences are normal based on the research on parent-child agreement, it could be necessary to address these confounds by modifying the TARPG assessment measures to reward Parent-child outcome assessments that determine positive changes in less salient behavioral changes.

Implications

The findings of the present study offer important implications that could prove to be useful, especially for practicing clinicians, as well as hold potential for future research from a theoretical perspective on TARPGs. One of the main aims of this present study was to add to the emerging literature on TARPGs as an intervention for psychological and social functioning. While the results are not without limitation, they have important implications for clinicians considering use of TARPGs as an intervention with youth/young adult populations. Results on the small decrease in effect in a sample size of nine people suggests that this invention needs further evaluation in order to better determine if it can be utilized to help foster improvements in social and psychological skills. Further research is still needed however, clinicians should consider the possibility of utilizing TARPGs for interventions with youth/young adult clients in order to additionally assess for other potential gains or limitations not presently discussed. It is important to consider that while this study's results were limited, the growing body of literature for TARPGs help to provide great support for this alternative intervention as a therapeutic service. It is additionally important for other

nonprofit organizations to consider improvements in integrating longer processing components, better measures for the constructs they are measuring, and understanding the limitations of facilitators. Other critical components to consider for future research is the limited ability to standardize a TARPG intervention due to the specific adaptations made to story and processing in order to best fit the participants goals and therapist orientation (GM). Standardization of TARPG interventions is additionally difficult due to the ongoing changing nature of the narrative as a consequence of the collaborative input, freewill, and interpersonal interactions of all player characters. This is also substantiated by the results found in this study and may also indicate that the TARPG intervention could have difficulty directly targeting specific psychological or social outcomes due to the freedom of choice that can occur within the gameplay. It may be that this particular intervention is better-suited for clinically distressing and functionally impairing experiences (e.g., PTSD, Autism, Depression, and Anxiety). Conclusively, as this study was able to analyze quality assurance data from a nonprofit commonly using TARPGs as an intervention, this research further helps to guide treatment improvement and endorses a clinical and research utility of TARPGs.

Limitations

There are several limitations that this present study was subject to that should be noted. Within the TARPG groups used for data collection, archival data was examined by the researchers and observed a low response rate to post

intervention surveys. While the total sample size for youth/young adults (N = 36) was acceptable, many participants in this group only completed premeasures for the intervention and it was observed that a large drop off for post measures only included a finite amount of youth/young adults (N = 9) participants that were used for this data analysis. This could have been caused by youth participants who could not access the surveys due to dropping from the group or being absent during post measure data collection for a number of potential reasons not presently available to the researchers. As a possible result, this created a smaller selected sample size for the youth/young adult participants post intervention. However, non-completion of post surveys was not limited to youth/young adult participants, this was also observed with parents of participants who completed both pre (N = 55) and post (N = 29) surveys also showing frequent non-completion after the intervention. The response bias demonstrated that those participants who completed the survey may overall have had a better experience with the TARPG intervention. Thus, the observed low response rate to post intervention surveys in the selected sample has limited the ability to generalize the results obtained from the remaining sample.

Additionally, results from this sample could vary when compared to a sample that is more ethnically-representative of youth/young adults in the United States. Within this study out of 36 youth/young adults who initially participated, a total of nine identified on self-report demographics as male. Furthermore, it was reported that youth/young adults were 66.7% White or Caucasian and 66.7%

Straight/Heterosexual. These demographics are important in consideration for TARPG groups as an ethnically diverse sample or a more homogenous one could yield varying results from the sample that was selected in this archival data. Future research should consider a more diverse sample when evaluating the intervention of TARPGs or a more homogenous sample in order to best determine if the intervention's outcomes are not further confounded by other extraneous demographic variables. This could further help to support the generalizability of these findings for TARPG's being used as a clinical intervention.

Another limitation to be considered is that some youth/young adult participants may have completed the intervention previously which could contribute to a plateau effect due to them participating more than once and potentially having the gains not observable in pre-post measures. This effect may have greatly impacted the results of the data and caused less of an effect size to be observed on the measured pre and post results as the participants may have already been at the maximum levels of measured outcomes. This also contributes to a decrease in the ability to definitively make a conclusive judgment on the efficaciousness of the inventions of TARPG. Despite this limitation, a reasonable small effect size was still observed which indicates empathy and self-esteem were impacted by treatment even with the possible plateau effect in action for these groups. Even though large effect sizes were not found, the retention rate for these groups was admirable, suggesting there may be other

benefits to participants which should be explored in future studies. However, future research should consider having new participants starting the treatment for the first time in order to collect data that is able to observe the true benefits of this intervention.

Additionally, this study could not control for facilitator effects of the individuals who were able to conduct the TARPG groups for the participants. Different facilitators ran different TARPG groups and this could have been subject to being more or less effective in specific group experiences and subsequent outcomes. As this data was archival, facilitators effects could have contributed to the scores in outcome measures. This may have also been demonstrated if additional self-report qualitative data was gathered from individual participants. This study was limited for TARPG group program evaluation but could have benefited from other results based on the full experience reports of the participants. This may have provided a more comprehensive assessment measure that also includes aspects such as participant satisfaction with the TARPG group. Future research should consider controlling for facilitator effects and assessing for TARPG group program evaluations based on the qualitative experience of the participants.

Another limiting factor that could have contributed to the limited outcomes is the issues and goals that are set in game could not necessarily coordinate to the constructs measured in this quality assurance. Due to this study utilizing archival data this research was unable to directly facilitate or influence the

gameplay that could lead to direct outcomes on the desired measures. Direct problems that could have occurred within the facilitation of the TARPG intervention are unknown and should be considered a possible influence on how these outcomes for this study are interpreted. If this study is replicated it would be suggested that direct monitoring of each session be conducted by the researcher(s) in order to ensure consistency of each TARPG session. Thus, assisting in better determining the effects of issues that arise within the gameplay of a TARPG intervention. This limiting factor should be further addressed by the non-profit organization in order to ensure that the measured outcomes are reflectively addressed by the goals and gameplay that is facilitated by the TARPG intervention.

Finally, no comparison group was utilized within this study. This makes the finding of this study difficult to be usable to draw strong conclusions due to no comparison group. For future research it would be strongly advised that a comparison group be utilized in order to compare the observed pre and post measures scores to a control to ensure that the improvements are due to the intervention and not the passage of time or practice effects. It would be optimal if the intervention of TARPGs were able to undergo a treatment investigation involving creation of a waitlist or randomized control group in order to ensure that improvements are not due to the passage of time and are attributable to the intervention itself. Overall, further research is a necessity to draw more definitive conclusions about TARPG efficacy and the TARPG mechanisms of change and

should be conducted in order to explore beyond the limitations of the present study and add to the body of literature for using TARPGs as a clinical intervention.

Conclusion and Future Directions

In summary, these results do not suggest that TARPG's may be a potentially valuable intervention for promoting psychological and social skills growth among youth/young adults. These initial findings are: limited yet relevant, contrary to previous research this study still adds to the growing research of TARPGs as an invention and further encourages more research to evaluate the scant but emerging evidence for this treatment. However, it is still necessary for further investigations to evaluate the efficacy of TARPGs across a multiplicity of constructs. Due to the limited research presently conducted on TARPGs, it is crucial to consider the various variables that might affect or promote the use of TARPGs as a clinical intervention. A randomized control trial with a control comparison group would be the best next logical step in order to determine the degree that TARPG intervention alone can have on improvements as well as yield evidence that would substantiate this intervention in clinical settings. Moreover, parental perceptions should be further evaluated as a potential factor that has influence on the therapeutic outcomes of youth/young adult populations who participate in TARPG groups. Additionally, it would be ideal to consider better measures that have more specificity for the behaviors that are directly

utilized in the TARPG intervention; this could help to draw better conclusions that are not confounded by possible broadband screeners for behavior. Another consideration that could be valuable is the separate populations of youth and young adult populations that participate in the TARPG invention and compare possible differences in outcomes. It would be useful to understand how parental perception of this treatment could potentially confound results yielded by TARPG intervention with youth/young adult populations. Comprehensively, as the TARPG invention is still a relatively new emerging invention it would overall benefit from any new research that is able to further study its utility as a possible clinical intervention. Therefore, it is important to continue to examine the evidence for the effectiveness of TARPGs as an intervention and to further understand the mechanisms through which it may promote psychological and social skills growth.

APPENDIX A

FIGURE 1: GROUP PLAYING TTRPG

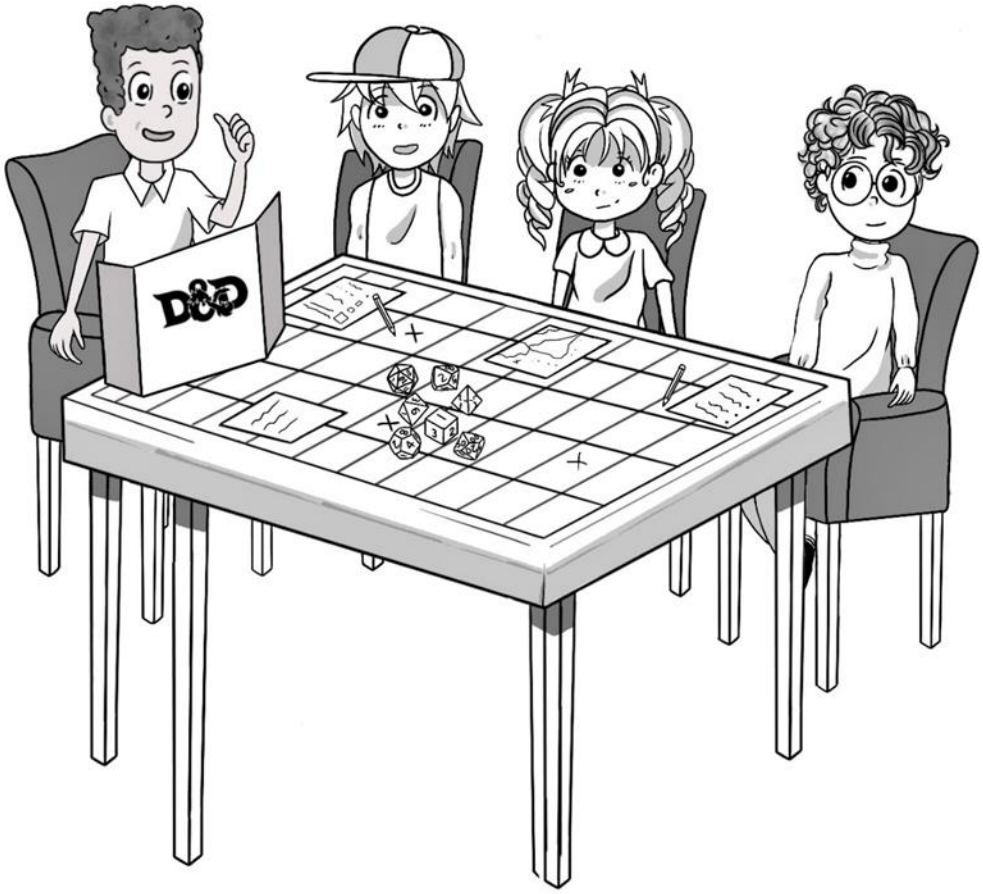

Figure 1. A group playing a TTRPG.
Medina (2022)

APPENDIX B

TABLE 1 CHARACTERISTICS OF THE YOUTH/YOUNG ADULTS

PARTICIPANTS

Table 1. Characteristics of the youth/young adult participants (N = 9)

Measure	*n*	*M*	*SD*	Cohen's *d*
Pre-RSE Youth/young adult	9	24.44	2.70	0.43
Post-RSE Youth/young adult		23.60	1.23	
Pre-BES Youth/young adult	9	59.33	5.15	0.24
Post-BES Youth/young adult		58.33	2.92	
Pre-SDQ Youth/young adult	8	18.00	5.84	0.15
Post-SDQ Youth/young adult		17.11	6.13	

APPENDIX C

TABLE 2 CHARACTERISTICS OF THE PARENTS/GUARDIANS

Table 2. Characteristics of the parent/guardian participants (*N* = 29)

Measure	*n*	*M*	*SD*	Cohen's *d*
Pre-RSE Parent	26	23.70	1.51	-0.02
Post-RSE Parent		23.73	1.86	
Pre-BES Parent	25	60.84	3.61	0.06
Post-BES Parent		60.60	4.22	
Pre-SDQ Parent	29	18.70	3.98	0.11
Post-SDQ Parent		18.25	4.35	

APPENDIX D

QUESTIONNAIRE FOR THE YOUTH/YOUNG ADULT PARTICIPANTS

Demographic Questionnaire - Youth

1.What is your first name?

2. What is your last name?

3. Which of the following describes you?

Asian or Pacific Islander, Black or African American, Hispanic or Latinx, Native American or Alaska Native, White or Caucasian, Prefer not to answer, Other_____

4. Would you describe yourself as transgender?

Yes, No, Prefer not to say

5. How would you describe your gender?

Male, Female, Non-binary, Questioning or Unsure, Prefer not to say, Other_____

6. How would you describe your sexual orientation?

Asexual, Bisexual, Gay/lesbian, Queer, Questioning/unsure, Straight/heterosexual, Prefer not to say, Other_____

Rosenberg Self Esteem Scale - Youth

Please record the appropriate answer for each item, depending on whether you Strongly agree, agree, disagree, or strongly disagree with it.

1 = Strongly agree

2 = Agree

3 = Disagree

4 = Strongly disagree

_____ 1. On the whole, I am satisfied with myself.

_____ 2. At times I think I am no good at all.

_____ 3. I feel that I have a number of good qualities.

_____ 4. I am able to do things as well as most other people.

_____ 5. I feel I do not have much to be proud of.

_____ 6. I certainly feel useless at times.

_____ 7. I feel that I'm a person of worth.

_____ 8. I wish I could have more respect for myself.

_____ 9. All in all, I am inclined to think that I am a failure.

_____ 10. I take a positive attitude toward myself.

Basic Empathy Scale – Youth

1. My friend’s emotions don’t affect me much.
2. After being with a friend who is sad about something, I usually feel sad.
3. I can understand my friend’s happiness when she/he does well at something.
4. I get frightened when I watch characters in a good scary movie.
5. I get caught up in other people’s feelings easily.
6. I find it hard to know when my friends are frightened.
7. I don’t become sad when I see other people crying.
8. Other people’s feelings don’t bother me at all.
9. When someone is feeling ‘down’ I can usually understand how they feel.
10. I can usually work out when my friends are scared.

11. I often become sad when watching sad things on TV or in films.
12. I can often understand how people are feeling even before they tell me.
13. Seeing a person who has been angered has no effect on my feelings.
14. I can usually work out when people are cheerful.
15. I tend to feel scared when I am with friends who are afraid.
16. I can usually realize quickly when a friend is angry.
17. I often get swept up in my friend's feelings.
18. My friend's unhappiness doesn't make me feel anything.
19. I am not usually aware of my friend's feelings.
20. I have trouble figuring out when my friends are happy.

Strengths and Difficulties Questionnaire - Youth

Not True= 1 Somewhat True= 2 Certainly True= 3

_____ 1) I try to be nice to other people. I care about their feelings.

_____2) I am restless, I cannot stay still for long.

_____3) I get a lot of headaches, stomach-aches or sickness.

_____4) I usually share with others, for example CD's, games, food.

_____5) I get very angry and often lose my temper.

_____6) I would rather be alone than with people of my age.

_____7) I usually do as I am told.

_____8) I worry a lot.

_____9) I am helpful if someone is hurt, upset or feeling ill.

_____ 10) I am constantly fidgeting or squirming.

_____11) I have one good friend or more.

_____12) I fight a lot. I can make other people do what I want.

_____13) I am often unhappy, depressed or tearful.

_____14) Other people my age generally like me.

_____15) I am easily distracted, I find it difficult to concentrate.

_____16) I am nervous in new situations. I easily lose confidence.

_____17) I am kind to younger children.

_____18) I am often accused of lying or cheating.

_____19) Other children or young people pick on me or bully me.

_____20) I often offer to help others (parents, teachers, children).

_____21) I think before I do things.

_____22) I take things that are not mine from home, school or elsewhere.

_____23) I get along better with adults than with people my own age.

_____24) I have many fears, I am easily scared.

_____25) I finish the work I'm doing. My attention is good.

*Created by Non-profit organization Game to Grow

Goodman R. (1997). The Strengths and Difficulties Questionnaire: a research note. *Journal of child psychology and psychiatry, and allied disciplines*, 38(5), 581–586. https://doi.org/10.1111/j.1469-7610.1997.tb01545.x

Jolliffe, D., &; Farrington, D. P. (2006). Development and validation of the Basic Empathy Scale. *Journal of Adolescence*, 29(4), 589–611. https://doi.org/10.1016/j.adolescence.2005.08.010

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press. http://www.jstor.org/stable/j.ctt183pjjh

APPENDIX E

QUESTIONNAIRE FOR THE PARENTS/GUARDIANS

Demographic Questionnaire - Parents

1.What is the group participant's first name?

2. What is the group participant's last name?

3. What is your first name?

4. What is your last name?

5. What is your relationship to the participant?

Parent, Guardian, Other_____

6. Which of the following describes the participant?

Asian or Pacific Islander, Black or African American, Hispanic or Latinx, Native American or Alaska Native, White or Caucasian, Prefer not to answer, Other_____

7. Would the participant describe themselves as transgender?

Yes, No, Prefer not to say

8. How would the participant describe their gender?

Male, Female, Non-binary, Questioning or Unsure, Prefer not to say, Other_____

9. How would the participant describe their sexual orientation?

Asexual, Bisexual, Gay/lesbian, Queer, Questioning/unsure, Straight/heterosexual, Prefer not to say, Other_____

Basic Empathy Scale - Parents

1. Your child is not affected very much by their friend’s emotions.

2. After being with a friend who is sad about something, your child usually feels sad.
3. Your child can understand their friend’s happiness when she/he does well at something.
4. Your child gets frightened when they watch characters in a good scary movie.
5. Your child can get caught up in other people’s feelings easily.
6. Your child finds it hard to know when their friends are frightened.
7. Your child doesn't become sad when they see other people crying.
8. Your child doesn’t seem bothered by other people’s feelings at all.
9. When someone is feeling ‘down,’ your child can usually understand how they feel.
10. Your child can usually work out when their friends are scared.
11. Your child often becomes sad when watching sad things on TV or in films.
12. Your child can often understand how people are feeling even before they are told.
13. Seeing a person who has been angered has no effect on my child's feelings.
14. Your child can usually work out when people are cheerful.
15. Your child tends to feel scared when they are with friends who are afraid.
16. Your child can usually realize quickly when their friend is angry.
17. Your child often gets swept up in their friend’s feelings.
18. When your child’s friend is unhappy, it doesn’t make your child feel anything.
19. Your child is not usually aware of their friend’s feelings.

20. Your child has trouble figuring out when their friends are happy.

Rosenberg Self Esteem Scale - Parents

Please record the appropriate answer for each item, depending on whether you Strongly agree, agree, disagree, or strongly disagree with it.

1 = Strongly agree

2 = Agree

3 = Disagree

4 = Strongly disagree

_____ 1. On the whole, your child is satisfied with themselves.

_____ 2. At times your child thinks they are no good at all.

_____ 3. Your child feels that they have a number of good qualities.

_____ 4. Your child is able to do things as well as most other people.

_____ 5. Your child feels they do not have much to be proud of.

_____ 6. Your child certainly feels useless at times.

_____ 7. Your child feels that they are a person of worth.

_____ 8. Your child wishes they could have more respect for themselves.

_____ 9. All in all, your child is inclined to think that they are a failure.

_____ 10. Your child takes a positive attitude toward themselves.

Strengths and Difficulties Questionnaire - Parents

Not True= 1 Somewhat True= 2 Certainly True= 3

_____1) Considerate of other people's feelings

_____2) Restless, overactive. cannot stay still for long

_____3) Often complains of headaches, stomach-aches or sickness

_____4) Shares readily with other children (treats, toys, pencils etc)

_____5) Often has temper tantrums or hot tempers

_____6) Rather solitary, tends to play alone

_____7) Generally obedient, usually does what adults request

_____8) Many worries, often seems worried

_____9) Helpful if someone is hurt, upset or feeling ill

_____10) Constantly fidgeting or squirming

_____11) Has at least one good friend

_____12) Often fights with other children or bullies them

_____13) Often unhappy, down-hearted or tearful

_____14) Generally liked by other children

_____15) Easily distracted, concentration wanders

_____16) Nervous or clingy in new situations, easily loses confidence

_____17) Kind to younger children

_____18) Often lies or cheats

_____19) Picked on or bullied by other children

_____20) Often volunteers to help others (parents, teachers, other children)

_____21) Thinks things out before acting

_____22) Steals from home, school or elsewhere

_____23) Gets on better with adults than with other children

_____24) Many fears, easily scared

_____25) Sees tasks through to the end.

_____26) Good attention span

*Created by Non-profit organization Game to Grow

Goodman R. (1997). The Strengths and Difficulties Questionnaire: a research note. *Journal of child psychology and psychiatry, and allied disciplines*, 38(5), 581–586. https://doi.org/10.1111/j.1469-7610.1997.tb01545.x

Jolliffe, D., &; Farrington, D. P. (2006). Development and validation of the Basic Empathy Scale. *Journal of Adolescence*, 29(4), 589–611. https://doi.org/10.1016/j.adolescence.2005.08.010

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press. http://www.jstor.org/stable/j.ctt183pjjh

APPENDIX F

IRB APPROVAL LETTER

April 11, 2022

CSUSB INSTITUTIONAL REVIEW BOARD

Administrative/Exempt Review Determination

Status: Exempt

IRB-FY2022-168

Christina Hassija

CSBS - Psychology

California State University, San Bernardino

5500 University Parkway

San Bernardino, California 92407

Dear Christina Hassija:

Your application to use human subjects, titled “An Evaluation of Therapeutically Applied Role-Playing Games for Psychological and Social Functioning Amongst Youth/Young Adults.” has been reviewed and determined exempt by the Institutional Review Board (IRB) of California State University, San Bernardino under the federal regulations at 45 CFR 46. As the researcher under the exempt category, you do not have to follow the requirements under 45 CFR 46 which requires annual renewal and documentation of written informed consent which

are not required for the exempt category. However, exempt status still requires you to attain consent from participants before conducting your research as needed.

This approval notice does not replace any departmental or additional campus approvals which may be required including access to CSUSB campus facilities and affiliate campuses. Investigators should consider the changing COVID-19 circumstances based on current CDC, California Department of Public Health, and campus guidance and submit appropriate protocol modifications to the IRB as needed. CSUSB campus and affiliate health screenings should be completed for all campus human research related activities. Human research activities conducted at off-campus sites should follow CDC, California Department of Public Health, and campus guidance. See CSUSB's COVID-19 Prevention Plan for more information regarding campus requirements.

Your responsibilities as the investigator include reporting to the IRB Committee the following three requirements highlighted below. Please note, failure of the investigator to notify the IRB of the below requirements may result in disciplinary action.

- Submit a protocol modification (change) form if any changes (no matter how minor) are proposed in your study for review and approval by the IRB

before being implemented in your study to ensure the risk level to participants has not increased,

- Submit an unanticipated/adverse events form if harm is experienced by subjects during your research, and
- Submit a study closure through the Cayuse IRB submission system when your study has ended.
- Ensure your CITI human subjects training is kept up-to-date and current throughout the study for all investigators.

The protocol modification, adverse/unanticipated event, and closure forms are located in the Cayuse Human Ethics (IRB) System. If you have any questions regarding the IRB decision, please contact Michael Gillespie, the Research Compliance Officer. Mr. Michael Gillespie can be reached by phone at (909) 537-7588, by fax at (909) 537-7028, or by email at mgillesp@csusb.edu. Please include your application approval identification number (listed at the top) in all correspondence.

If you have any questions regarding the IRB decision, please contact Dr. Jacob Jones, Assistant Professor of Psychology. Dr. Jones can be reached by email at Jacob.Jones@csusb.edu. Please include your application approval identification number (listed at the top) in all correspondence.

Best of luck with your research.

Sincerely,

Nicole Dabbs

Nicole Dabbs, Ph.D., IRB Chair

CSUSB Institutional Review Board

ND/MG

REFERENCES

Abbott, M. S., Stauss, K. A., &; Burnett, A. F. (2021). Table-top role-playing games as a therapeutic intervention with adults to increase social connectedness. *Social Work with Groups*, 45(1), 16–31. https://doi.org/10.1080/01609513.2021.1932014

Acri, M., Bornheimer, L. A., Jessell, L., Flaherty, H. B., &; McKay, M. M. (2016). The impact of caregiver treatment satisfaction upon child and parent outcomes. *Child and Adolescent Mental Health*, 21(4), 201–208. https://doi.org/10.1111/camh.12165

American Psychological Association. (2002). Ethical principles of psychologists and code of conduct. *American Psychologist, 57*(12), 1060–1073. http://doi.org/10.1037/0003-066X.57.12.1060

Bagès C., Hoareau N., & Guerrien A. (2021) *Play to Reduce Bullying! Role-Playing Games Are a Useful Tool for Therapists and Teachers*, Journal of Research in Childhood Education, 35:4, 631-641, https://doi.org/10.1080/02568543.2020.1810834

Bean, A. M., Jr., D. E. S., &; Hays, S. A. (2020). *Integrating geek culture into therapeutic practice: The clinician's guide to geek therapy.* Leyline Publishing, Inc.

Beck, J. (2011). *Cognitive behavior therapy: Basics and beyond*. The Guilford Press.

Blackmon, W. (1994). Dungeons and Dragons*: The use of a fantasy game in the psychotherapeutic treatment of a young adult*. American Journal of

Psychotherapy, 48(4), 624–632. https://doi.org/10.1176/appi.psychotherapy.1994.48.4.624

Bosc M. (2000). Assessment of social functioning in depression. *Comprehensive psychiatry*, 41(1), 63–69. https://doi.org/10.1016/s0010-440x(00)90133-0

Bowman, S. L. (2010). The functions of role-playing games: *How participants create community, solve problems and explore identity.* Jefferson, NC: McFarland. Bowman, S. L. (2014).

Bowman, S. L. (2014) Educational live action role-playing games: A secondary literature review. (Ed.), *Wyrd Con companion book* 2014. Los Angeles, CA: Wyrd Con.

Chung, T.-shan. (2013). Table-top role playing game and creativity. *Thinking Skills and Creativity*, 8, 56–71. https://doi.org/10.1016/j.tsc.2012.06.002

Cohen, J. (1988). Statistical power analysis for the Behavioral Sciences (2nd ed.). Routledge. https://doi.org/10.4324/9780203771587

Crenshaw, D. (Ed.)., Stewart, A. , & Gardner, B. (2015). Play therapy with adolescents. Play Therapy: A Comprehensive Guide to Theory and Practice, 439-451.

Daniau, S. (2016). The transformative potential of role-playing games—: From play skills to human skills. *Simulation &; Gaming*, 47(4), 423–444. https://doi.org/10.1177/1046878116650765

Davis, A.D., & Kilmer, E.D. (2020) *The game to grow: Method of therapeutically applied role-playing games: A level one training for mental health professionals* [Online course]. Game to Grow. https://gametogrow.org/training/gtgmethod/mentalhealth/

Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. JSAS Catalog of Selected Documents in Psychology, 10, 85.

Goodall, A. M., & Truong, A. H. (2021). Pop culture and social insertion: How can play in adolescence and adulthood be “therapeutic”?. *Journal of Community Safety and Well-Being*, 6(1), 17–21. https://doi.org/10.35502/jcswb.178

Goodman R. (1997). The Strengths and Difficulties Questionnaire: a research note. *Journal of child psychology and psychiatry, and allied disciplines*, 38(5), 581–586. https://doi.org/10.1111/j.1469-7610.1997.tb01545.x

Harris, R. (2009). Act made simple: An easy-to-read primer on acceptance and commitment therapy. New Harbinger Publications. Harris, R. (2009). *Act made simple: An easy-to-read primer on acceptance and commitment therapy*. New Harbinger Publications.

Jolliffe, D., &; Farrington, D. P. (2006). Development and validation of the Basic Empathy Scale. *Journal of Adolescence*, 29(4), 589–611. https://doi.org/10.1016/j.adolescence.2005.08.010

Karver, M.S. Determinants of multiple informant agreement on child and adolescent behavior. J Abnorm Child Psychol 34, 242–253 (2006). https://doi.org/10.1007/s10802-005-9015-6

Katō, Kōhei. 2019. “Employing tabletop role-playing games (trpgs) in social communication support measures for children and youth with Autism Spectrum Disorder (ASD) in Japan: A hands-on report on the use of leisure activities."

Japanese Journal of Analog Role-Playing Game Studies, 0: 23-28. . https://doi.org/10.14989/jarps_0_23

Kilmer, E.D., Kilmer, J., & Davis, A (2021, August) The Game to Grow method of therapeutically applied role-playing games. In J. Kilmer (Chair), *Rolling for Recovery: Therapeutic Applications of Tabletop Role-Playing Games* [Symposium] American Psychological Association Convention, Virtual.

Leary, M. R. (1999). Making sense of self-esteem. *Current Directions in Psychological Science, 8(1)*, 32–35. https://doi.org/10.1111/1467-8721.00008

Leonard, D. (2018). Bleed-out on the brain: The Neuroscience of Character-to-Player Spillover in Larp. *International Journal of Role-Playing*.

Medina, C. (2022). *A group playing a TTRPG*. [digital drawing imported to JPEG]. San Bernardino, California, United States

Muris, P. (2003). The Strengths and Difficulties Questionnaire (SDQ) - Further evidence for its reliability and validity in a community sample of Dutch children and adolescents. European Child Adolescent Psychiatry.

Nock MK, Kazdin AE. Parent expectancies for child therapy: Assessment and relation to participation in treatment. Journal of Child and Family Studies. 2001;10:155–180. https://doi.org/10.1023/A:1016699424731

Pechorro P;Kahn RE;Abrunhosa Gonçalves R;Ray JV; (2017). Psychometric properties of basic empathy scale among female juvenile delinquents and school youths. International journal of law and psychiatry. Retrieved from https://pubmed.ncbi.nlm.nih.gov/29157509/

Rey JM, Plapp JM, Simpson PL. Parental satisfaction and outcome: a 4-year study in a child and adolescent mental health service. *Australian and New Zealand Journal of Psychiatry*. 1999;33(1):22–28. https://doi.org/10.1046/j.1440-1614.1999.00516.x

Rivers A., Wickramasekera II I.E., Pekala R.J., & Rivers J.A. (2016) Empathic features and absorption in fantasy role-playing, American Journal of Clinical Hypnosis, 58:3, 286-294,. https://doi.org/10.1080/00029157.2015.1103696

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press. http://www.jstor.org/stable/j.ctt183pjjh

Rosselet, J. G. & Stauffer, S. D. (2013). Using group role-playing games with gifted children and adolescents: A psychosocial intervention model. *International Journal of Play Therapy*, 22(4), 173-192. https://doi.org/10.1037/a0034557

Schmitt, D. P., & Allik, J. (2005). Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: Exploring the universal and culture-specific features of global self-esteem. *Journal of Personality and Social Psychology*, 89(4), 623–642. https://doi.org/10.1037/0022-3514.89.4.623

Shepherd, T. (2021). *Roll for Identity: A study of tabletop roleplaying games and exploring identity.* University of Wyoming.

Sinclair, S. J., Blais, M. A., Gansler, D. A., Sandberg, E., Bistis, K, & LoCicero, A. (2010). Psychometric properties of the Rosenberg Self-Esteem Scale: Overall and across demographic groups living within the United States. Evaluation & the Health Professions, 33(1), 56-80. https://doi.org/10.1177/ 0163278709356187

Spinelli, Lily, "Tabletop role-playing games and social skills in young adults" (2018). *Honors College Theses*. 192. https://digitalcommons.pace.edu/honorscollege_theses/192

Steiner RJ, Sheremenko G, Lesesne C, Dittus PJ, Sieving RE, Ethier KA. Adolescent connectedness and adult health outcomes. Pediatrics. 2019 Jul;144(1):e20183766. . https://doi.org/10.1542/peds.2018-3766.

Tolin, D. F. (2016). *Doing Cbt: A comprehensive guide to working with behaviors, thoughts, and emotions*. The Guilford Press.

Torrey, W. C., Mueser, K. T., McHugo, G. H., & Drake, R. E. (2000). Self-esteem as an outcome measure in studies of vocational rehabilitation for adults with severe mental illness. *Psychiatric services (Washington, D.C.)*, 51(2), 229–233. https://doi.org/10.1176/appi.ps.51.2.229

Wentzel, K.R, & McNamara, C.C. Interpersonal Relationships, Emotional Distress, and Prosocial Behavior in Middle School. *The Journal of Early Adolescence*. 1999;19(1):114-125. . https://doi.org/10.1177/0272431699019001006

Yalom, I. D., & Leszcz, M. (2020). The theory and practice of group psychotherapy (6th ed.). Basic Books.

Zagal, J.P., &; Deterding, S. (2018). *Role-playing game studies: Transmedia Foundations*. Routledge.

Zayas, L.H. & Lewis, B.H.(1986) Fantasy role-playing for mutual aid in children's groups, *Social Work with Groups*, 9:1, 53-66, . https://doi.org/10.1300/J009v09n01_05