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Online Gaming Issues in Offline Couple Relationships: A Primer for Marriage and Family Therapists (MFTs)

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Abstract

Although the challenges around participation in online gaming grow, gamers and their partners who experience online relationship issues related to gaming, present a new set of treatment challenges for therapists. In this article, we report on the findings of a hermeneutic research study aimed at evaluating the scholarly literature related to online gaming and interpret these texts to determine the effect such online activity has on the couple relationship. We reviewed 18 articles published between 1998 and 2010 related to online gaming and interpersonal relationships, focusing solely on empirical articles related to the search criteria. Our interpretation of the text concluded that online gaming might add to and/or interfere with a couple's life. Based on these potential problem areas, practical considerations for treatment are also outlined.

Online Gaming Issues in Offline Couple Relationships: A Primer for Marriage and Family Therapists (MFTs)

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Although the challenges around participation in online gaming grow, gamers and their partners who experience online relationship issues related to gaming, present a new set of treatment challenges for therapists. In this article, we report on the findings of a hermeneutic research study aimed at evaluating the scholarly literature related to online gaming and interpret these texts to determine the effect such online activity has on the couple relationship. We reviewed 18 articles published between 1998 and 2010 related to online gaming and interpersonal relationships, focusing solely on empirical articles related to the search criteria. Our interpretation of the text concluded that online gaming might add to and/or interfere with a couple's life. Based on these potential problem areas, practical considerations for treatment are also outlined.
Key Words: Internet, Online Gaming, Couples, Therapists, Qualitative Research.

The twenty-first century saw the dawn of a new genre of computer role-playing games called the "Massively Multiplayer Online Role-Playing Game" (MMORPG). A recent survey of 1,200 people conducted by the Entertainment Software Association (ESA) found that 68% of United States (U.S.) households are playing video games (ESA, 2009). In September 2009, the MMORPG.com website (which claims to be the headquarters for online multiplayer games, online role playing games, and free online games) boasts a total of 1,120,491 members. Although it is generally believed that household gamers are primarily children and adolescents, ESA (2009) found the average age of the American gamer is 35 (while the average age for the video game purchaser is 39) and had been gaming for 12 years (ESA, 2009). Online gaming also cuts across a wide variety of demographic groups. Women are the fastest growing demographic in the gaming world with 40% of them currently playing games. An estimated 25% of seniors also game, representing a nine percent increase over the last decade (ESA, 2009).

Although there is no published current research on the topic, Mitchell (1985) found that video games helped families to achieve a certain level of togetherness not experienced previously. Additionally, however, there is some evidence that suggests online gaming can create difficulties for couples (especially when only one of the partners participates in gaming). For instance, Mitchell and Wells (2007) found that gaming was "more likely associated with the primary presenting" problem in couples treatment than a secondary one (Mitchell & Wells, 2007). As further anecdotal evidence, the "Warcraft Widows" online support group was developed in 2005 for those whose

partners play a popular online game, "World of Warcraft" (over 10 million players; Gamasutra.com, 2008). The purpose of this group, which boasts 4000 members, is to "provide solace to all those ignored loved ones" whose partners' play the popular online game, "World of Warcraft" (DeMarco, 2006).

In general, 36% of gamers are married and 22% have children (ESA, 2005; Yee, 2004, 2006). With such a large number of gamers in married or dating relationships and gaming becoming a primary presenting problem rather than secondary, it is critical couple and family therapists understand how gaming affects relationships. Although there is some evidence of a negative correlation between Internet usage and interpersonal relationships (Liu & Kuo, 2007), no research specifically investigates this question. What little literature *is* published is scattered among a variety of disciplines (communication, psychology, marriage and family therapy, etc.) and lacks systemic conceptualization, thus preventing marriage and family therapists (MFTs) from readily extracting relevant information into clinical practice.

Because of the prevalence of online gaming in couple's lives, we were interested clarifying what is known about online gaming and interpersonal relationships as well as what is not known (specifically, how couples might experience online gaming within the context of their relationship. To accomplish this, we conducted a hermeneutic study related to online gaming and couples.

The Research Process

Philosophical Underpinnings

As the interest in online gaming continues to grow, it is imperative that couple and family therapists understand how this activity affects the lifecycle and dynamics of a couple. We were interested in taking what is known about gaming and interpersonal dynamics, evaluating the findings of the collection of studies as a whole in order to determine how they apply to couples, and presenting the information to assist practicing therapists and family therapy scholars in understanding how the phenomenon manifests in couple dynamics. We believe that a hermeneutic research strategy would best fit our approach in that this type of research is not necessarily utilized to discuss results or effectiveness, but to explore perspectives that may influence the topic (Kinsella, 2006). This qualitative research approach focuses on interpretation, generally conceptualized as spanning either the art of interpretation, or the theory and practice of it (Denzin & Lincoln, 1998). Understanding of the text under investigation is only possible when one considers the text within context; further, understanding of the context is made possible by understanding the parts (Olofsson & Fossum, 2009; Smyth, 2007).

The hermeneutic research method has been used by others as a way of "attuning to the past, articulating the situation in the present, and pressing forward to new possibilities of the future" (Titchen, 2000, as cited in Paterson & Higgs, 2005, pg. 346). In its application to the psychological sciences, hermeneutic inquiry is a way in which researchers can interpret findings and data with integrity and relevance by focusing on the content within the context of the study (Packer & Addison, 1989). It brings into focus how the certain concepts are attended to over different texts (Rapley, 2007). According to Smyth (2007), researchers using this approach should be aware that understanding text in

a research context cannot be (and should not be) separate from our thinking. The role of the researcher is to focus on being-there, being-open, being in-the-play, going with what comes, and awaiting the moment of understanding.

Procedures

Our research question was: How does literature on online gaming address issues within couple's relationships and what are the implications of literature on online gaming for couple's relationships?

We reviewed empirical journal articles on online gaming published since 1998. We used the search terms "MMORPG", "online gaming", "internet gaming", "intimacy", "video games", "couples," and/or "relationships" within social science databases, including PsycINFO, ERIC, and EBSCOHost. We also used the search term "online gaming" within the search engine for the journal *CyberPsychology and Behavior*. We discovered only two published empirical studies specifically devoted to online gaming and couples (Anderson, 2005; Baker, 2002). Because we wanted to consider all relevant text to interpret, we repeated the literature review, used the extant literature on online gaming *in general*, and interpreted how these issues might be expressed specifically within a couple's relationship. We specifically focused our inclusion of articles on those that focused on online role-playing games and inter/intrapersonal dimensions of adult players. Of the 336 articles which initially matched our search criteria, 21 (6.25%) related to online gaming/MMORPGs and interpersonal/intrapersonal dimensions of players. We eliminated three of the 21 from our review because they used adolescents as a sample, thus leaving us with a total of 18 empirical articles to review. This research was approved as an excluded project of the University of Nevada, Las Vegas Institutional Review Board, #0911-3305.

The search resulted in 18 articles from *CyberPsychology and Behavior,* nive that were full-length and nive "rapid communication" (brief) articles[1], one article from *Computers and Human Behavior*, and one article from *Psychological Reports.* Despite our extensive search, we may have overlooked some articles; however, we trust that we retrieved the bulk of published literature on this topic. Furthermore, because online gaming has not been fully addressed in the couple therapy literature, we are confident that the articles generated by our search represented how online gaming is addressed in this literature base.

The process of interpretation was guided by use of a meta-principal, known as the hermeneutic circle (see Figure 1) which provides a way to understand individual parts within their context (Paterson & Higgs, 2005). The hermeneutic circle, "guides the hermeneutic approach where the process of understanding moves from parts of a whole to a global understanding of the whole and back to individual parts in an iterative manner" (Klein & Myers, 1999, pg. 67). A researcher will need to explore how the parts relate to each other, how the parts articulate the whole, and how the whole is harmonious with the parts (Schostak, 2002). In research such a method is ideal for exploring a milieu or world where isolation from or disconnect of knowledge is present.

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[1] Rapid communication articles are shorter than original articles, must meet different criteria, and are submitted for quick publication (often within 3 weeks of submission).

Figure 1. *Hermeneutic Circle*
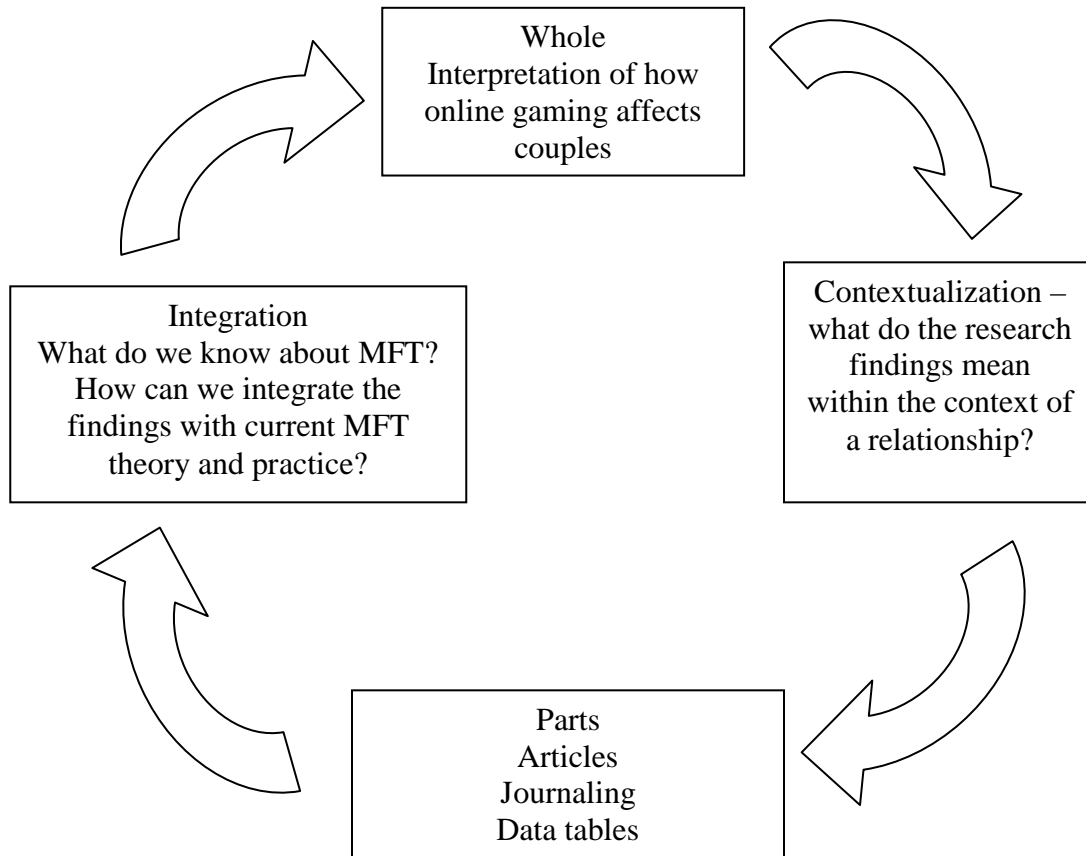
The first step (whole) was to examine each part of the text in an attempt to understand it within its context. We accomplished this by reading all of the articles and memoing ideas that seemed relevant to couples in the margins of each article. In the second phase (contextual), we sought to understand the results and conclusions drawn within their context (that is, their research procedures). We constructed a table listing the references, the focus, methods, and findings of each study (see Appendix A). We critically evaluated the methods in order to determine whether the conclusions drawn were reasonable given the methodologies employed (i.e., was the sample generalizeable? Were the methods appropriate for answering the research question?). In the third step (parts), we independently re-read each article and generated what issues, if any, might be expressed within a couple's relationship. These issues were based on data within our journals and on our thoughts from reading, the memoing procedures used to track interpretations during reading, and our projection and interpretation of how the findings might manifest themselves within a couple's relationship. We also discussed our interpretations of the literature as they apply to couples, and then revisited whether these made sense within the context of the whole article.

In the fourth step (integration), we widened our scope to interpret what these findings would mean for not just the couples, but also the therapists. We independently

re-read each article a third time and identified potential issues for couples that we did not note in the previous readings. We then looked at our table of potential issues and each independently identified potential therapeutic strategies for the issues delineated (see Table 1). We utilized an adaptation of the intersystem's theoretical framework (Weeks, 2005) to focus and direct our identification of the interventions for use with these couples. The Intersystems approach is a framework attending to both the intrapersonal and interpersonal variables contributing to a particular phenomenon. While it has been widely applied to understanding and treating couples with sexual problems (see, for example, Hertlein, Weeks, & Gambescia, 2008), this framework can generically be applied to understanding how factors make a couple vulnerable to challenges within their relationship. In the final step (a revisit to the whole), we reviewed our interpretations of how the aspects of online game play might manifest themselves within a couple's relationship, within treatment, and the field of MFT as a whole. We incorporated further reflections on our tables and interpretations from our journals, notes, and memos in between meetings.

Data Analysis

In a hermeneutic study, data analysis is an iterative and ongoing process. In general, we moved fluidly from discussing parts within the literature to whole, then to text parts and then the whole again (Paterson & Higgs, 2005). This process was characterized by repeated conversations, memoing, and journaling in which we tried to make sense of the text in its application to couples. For example, the authors read an article and independently created a column of main characteristics of the article and another column reporting the results. Each author also made memos about how each of the results might fit into what we already knew about couples based on scholarly literature and our clinical experience. We then met and had a conversation comparing our lists of interpretations and reviewed the supporting quotes and data from which the interpretations originated.

The second author explored multiple online gaming sources to gain a greater understanding of the MMORPG world, from gaming websites chronicling game specific products and updates, online sites that supported women whose partner's gamed excessively, watching others interact and play online in first person shooter multiplayer online games, and engaging gamers and non-gamers alike in conversations about gaming. Additionally, she monitored her own conceptions about online gaming in couples and approached these discussions with an almost *tabula rasa* manner. Utilizing her therapeutic experience with couples, her research in the field of MFT and her systemic inclinations, the second author generated a list of vulnerabilities (and strengths) that may be observed in couples where gaming is an issue as it related to the literature findings. Finally, she drew out a list of implications for therapists to consider in treatment in correspondence to the findings before meeting to clarify and collaborate with the first author.

We clarified our interpretations for one another through our memos and discussed any disagreements about the existence/placement of interpretations through conversation and mutual decisions. Journaling was achieved through documentation from each author

at the meetings and subsequent steps that needed to take place, as well as journaling about independent questions that arose out of the conversations.

We used our journals and memos as a way of comparing and contrasting our thoughts about the interpretations. Once we generated our interpretations, we met again to consider applicable treatment strategies and compared/contrasted our tables. Again, we discussed any disagreements regarding the existence and placement of interpretations. Key points in the journals and memos facilitated our interpretation discussion, and directed us to re-examine the articles.

Role of the Researchers

Because we are both trained as marriage and family therapists, our conceptualization have a systemic lens from which interpretations were drawn (specifically from the Intersystems approach as discussed earlier). As an expert in the field of technology and relationships, the first author offered interpretations from both clinical experiences and scholarly knowledge related to technology and relationships. The second author, whose expertise are in attending to differences in culture, offered insight from her clinical experiences as well as her interpretation of the research literature from a wider, cultural perspective.

Ensuring Rigor

In the case of any interpretive investigation, it is imperative that rigor be established in such a way that the consumers will find the results credible and dependable (Anfara, Brown, & Mangione, 2002). In this study, we established our credibility through our independent journaling, table creations, and memoing. We actively sought multiple perspectives on the topic of gaming from varying sources to monitor the imposition of researcher bias. We established dependability through the comparison of our memos and arrangements of the data within particular categories. Transferability was established through the expansive searching we did in the journals and the discovery that many of the articles were addressing some of the same issues. Finally, we engaged in external audit identified by Creswell (1998) as a valuable technique for use to ensure vigor, where an outside reader was invited to review the level of analysis and to ensure that the study is able to provide important information on the phenomenon.

<div align="center">

Findings

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The topics explored by the articles were identified and categorized as illustrated in the table in Appendix A. The article topics spanned several areas including characteristics of MMORPGs, intrapsychic aspects, personality characteristics of players, gender, and relationship issues. The articles varied significantly in terms of research questions, methodologies and approaches, and conclusions drawn. Each article was included in one category (e.g., intrapsychic aspects or personality characteristics of players) thus there were no overlap of findings. Therefore, our analysis of the articles was very broad in an attempt to understand how gaming affects couple relationships. A table of the reviewed articles and their results is provided (See table 1).

Once we reviewed the articles and compiled the findings, we considered what might be the resiliency effects that gaming has on couples and what about gaming might create challenges for couples based on the empirical findings. We discussed how these challenges manifested themselves in clinical work and devised clinical considerations reflective of these effects (see Table 1). We acknowledge, however, that much of the research did not focus on the resiliency factors provided by online gaming that might contribute positively to a couple's relationship. Reviewing our journals, however, revealed that early on in our conversations we moved to focusing on the potential problem areas because of the assumption that the couples in treatment would cite the gaming as a problem rather than a resiliency factor. The clinical considerations spanned a variety of topics, such as the use of appropriate psychoeducation, ideas about structuring sessions, topics that might be valuable to discuss in treatment (commitment, intimacy, the role of the self in the couple), coping mechanisms, etc. We met and discussed the arrangement of these concepts, and our discussions consistently returned to the assertion that online gaming may enhance as well as create challenges for couples. Because we kept returning to this issue, we chose to indentify these two central themes: the benefits online gaming adds to couples lives, and the challenges experienced by couples related to gaming.

Literature Summary: Research Focus

Motivation for play. Ten studies investigated the personality and character of gamers, specifically addressing whether MMORPGs provide players with an environment and capability to construct an "ideal self" which provides an escape. Although players' experiences, impulsivity and gender do not predict their propensity to play, women are more likely to report their motivations for play as therapeutic refreshment while men report curiosity, astonishment and interest (Chumbley & Griffiths, 2006; Scott, Mottarella, & Lavooy, 2006). Players' motivations are grouped into three categories: achievement (advancement, mechanics, and competition), social/interaction (socializing, relationship, and teamwork), and immersion (discovery, role-playing, and customization) (Williams, Yee, & Caplan, 2008; Yee, 2006). These three categories are a well-known classification system called the Bartle's player types and aids in the understanding of how people select games and the effects of game-play on one's life based on their typology (Yee, 2006).

Addiction. Another factor sustaining gaming may be addiction to either the Internet or gaming itself (Block, 2008). Three studies suggested problematic play is caused by escapism and advancement in the game (Grusser, Thalemann, & Griffiths, 2007; Huang, 2006; Ng & Wiemer-Hastings, 2005). Approximately 12% of players appeared to meet the criteria for addiction, consistent with the percentage of the population which meets the criteria for addiction in other areas (Grusser et al., 2007). Of the six studies which explored the concept of gaming addiction and problematic gaming behavior, the number of male players was higher than their female counterpart.

Personality characteristics. Heavy users (defined by gamers who play 20 hours per week) and those who reported guild membership were classified as having higher

levels of social anxiety, increased scores of neuroticism and also decreased extraversion and conscientiousness on personality measures (Peters & Malesky, 2008). Guilds are in-game associations or groups of players who join together for strategic purposes such as advancing within the game or social purposes. Players with more physically aggressive personality features (as measured by the physical aggression subscale in Buss and Perry's Aggression Subscale) manifested more violent behaviors and more frequent violent interactions when playing (Peng, Liu, & Mou, 2008).

Gender. Eleven of the studies included both male and female players as participants. Male players reported they engaged in more friendships and fewer intimate relationships than female players (Scott et al., 2006). Female players displayed a tendency to discuss family problems, loss of loved ones, sexuality issues, discrimination and work problems with their online gaming friends whereas men did not (Cole & Griffiths, 2007).

Overall well-being. MMORPG players compared with other types of computer gamers showed significantly worse overall health and worse sleep quality and reported that the game interfered with their schoolwork, yet did not differ on reports of overall academic performance (Smyth, 2007). Additionally, MMORPG players reported more interference with real-life socializing and development of new friendships, but not varying levels of satisfaction with their social life as compared to non-MMORPG players (Peters & Malesky, 2008; Rosenthal, Soper, Folse, & Whipple, 1998; Smyth, 2007). Players that spent more than 10 hrs per week participating in online gaming exhibited weaker signs of identity achievement and intimacy development, and stronger signs of identity diffusion and isolation (Huang, 2006).

Relationship intimacy. Interpersonal aspects of playing behavior such as intimacy and romantic relationships are severely lacking in the published literature. There was some evidence of a negative correlation between Internet usage and interpersonal relationships (Liu & Kuo, 2007); however none of the studies reviewed specifically sampled couples or dyads. Although a few studies asked gamers about their offline interactions, only two asked individual gamers about their offline romantic relationships (Lo, Wang, & Fang, 2005; Scott et al., 2006). Heavy users of online games, categorized as those who played for more than 20 hours per week by Peters and Malesky (2008), reported a lower quality of interpersonal relationships as compared to both light players and non-players. Less than half of gaming partners, however, believed that playing MMORPGs had a negative effect on their relationships with non-gaming partners (Cole & Griffiths, 2007; Lo et al., 2005).

Table1. *Core Issues/Results and Clinical Interpretation*

TOPIC	RESULTS	EFFECTS & VULNERABILITIES ON COUPLES	CLINICAL CONSIDERATIONS
Personhood	Ideal self vs. Real self.	Dissatisfaction with life and relationship.	Addressing accommodation
	Players create online characters that are close to their ideal (Bessiere et al, 2007).	Greater dissonance between ideal and real in couplehood.	Reduce dissonance between ideal and real.
	Heavy users report significantly higher levels of social anxiety compared to both light and non-players. (Lo, Wang, & Fang, 2005).	Potential difference in expectations of shared activities, offline socialization between partners.	Address realistic expectations as it pertains to real life relationships and social interactions
	MMORPG guild members show a moderate negative correlation with agreeableness, moderate positive correlation with neuroticism, moderate (+) correlation with the number of hours played per week, a low (-) correlation with extraversion, and a low (-) correlation with conscientiousness when given the NEO Personality Inventory (Peters & Malesky, 2008).	Gaming partner may have lower tolerance for everyday stress/conflict when compared to the ease and comfort of the fixed rules and immediate gratification of a gaming environment Sense of escape potentially impairs one's ability to accept the real self.	Psychoeducation and address cognitive distortions. Increase/improve stress management techniques, normalize fluidity of couple relationship.
	Problematic online game playing is linked to/may be caused by escapism and advancement in game (Wang & Wang, 2008)	Partners may have different priorities causing greater dissonance, distance, and resentment Couples may present with established patterns of resentment, bitterness, self-blaming and attacking.	Revisit and adjust feedback loops; Utilize FFT concepts (distancing, midpointing, closeness) Structure session to provide safety in the room.
Motivations & Addiction	12% of players meet the criteria for addiction; are then considered pathological gamers. (Grusser, Thalemann, & Griffiths, 2007).	Non-gaming partner may classify gaming partner as addicted	Define/clarify meanings of addiction/problematic play; provide psychoeducation around the evolving definition of addiction

TOPIC	RESULTS	EFFECTS & VULNERABILITIES ON COUPLES	CLINICAL CONSIDERATIONS
	Pathological gamers have higher "expected relief of withdrawal symptoms when gaming" and higher "craving due to the expectation of a positive outcome of gaming" (Grusser, Thalemann, & Griffiths, 2007)	Most non-gaming partners may identify their spouse as addicts which in reality may not be the case.	Psychoeducation. Work to depathologize the gamer while normalizing the offline partner's reactions.
	Men are more likely to be Internet addicted than women (Ko et al, 2008).	Gaming may help a partner regain a sense of control, serve as an outlet of negative energy, and alleviate stress of a conflict Non-gamers may not understand partners' motivations (women's efforts to incite closeness may push men further).	Understand how power and control manifest in the relationship
	Willingness to play in the presence of positive or negative reinforcement is not altered by gender; likelihood of playing is not predicted by gender, age, experience, or impulsivity (Chumbley & Griffiths, 2006).	Although couples may infer different meanings to why their partner spends time on MMORPGs, we may help them understand that the motivations for play can be similar.	Assessing the motivations for play (control, escape, prevent intimacy, etc) all have different consequences for treatment direction.
	In MMOPRGs, groups are needed to complete tasks.	Because boundaries and role distinctions set out by the game, gamer may be more comfortable with role rigidity.	Increase possibilities trough brainstorming. Assess for flexibility in couple
	Altruism and reciprocity has an impact on gamer's prosocial behavior. Also, gamer's motivations fall into in three categories; achievement social/interaction, immersion (Wang & Wang, 2008).	There are several important and powerful factors that keep gamers linked into the gaming world.	Shape competence in gaining these within the relationship. Discuss what is gained from gaming and restructure the relationship to assist in achieving these.
	Women report their motivations for play as therapeutic refreshment while men report curiosity, astonishment and interest (Cole & Griffiths, 2007).	These benefits may be maximized by helping partners provide some of that support to each other.	Assess for alternate mechanisms for refreshment, curiosity, astonishment, and interest

TOPIC	RESULTS	EFFECTS & VULNERABILITIES ON COUPLES	CLINICAL CONSIDERATIONS
Gender	Male gamers have more good friends in MMORPGs than female gamers; Female gamers are more likely than male gamers to be attracted to and date other gamers. (Cole & Griffiths, 2007).	Male partner's conception of friendship may be outcome oriented, goal-ending Women appear to play with purpose, which explains why women become upset when their partners play because they believe men are playing for the same motivations.	Psychoeducation regarding the differences between sexes Define and increase commitment to one another (reciprocity, shared goals, reminiscing, etc.)
	Male gamers are more likely to help female gamers; the same is not true for female gamers. (Wang & Wang, 2008).	Can create suspicion in the non-gaming partner related to gamer's motivations	Normalize male gamer helping behavior
	Female gamers tend to discuss family problems, loss of loved ones, sexuality issues, discrimination, & work problems with online gaming friends (Cole & Griffiths, 2007).	Can create suspicion in the non-gaming partner related to gamer's motivations	Normalize the socialization aspect of female gaming; discuss and define emotional infidelity for couple
Time mgt. & daily duties	Gamers that spend more than 10 hrs per week gaming showed weaker signs of identity achievement and intimacy development, and stronger signs of identity diffusion and isolation (Huang, 2006).	Extensive play may prevent introspection and self-development, which inhibits relationship intimacy because those without self-awareness in an appreciative way cannot fully give of themselves to another.	Differing values of intimacy or commitment needs to be clarified and addressed. Explore family-of-origin values and morals.
	Frequency or type of computer use is not related to computer use at work (Norris, (2004).	Potential discord when one partner is upset the other spends time on the computer at both work and home	Help couples define shared intimacy.
	MMORPG players (as compared to other computer gamers) reported worse overall health and sleep quality (Smyth, 2007).	Disruption in responsibilities within the household and, consequently, discord within the relationship.	The commitment is to the game not partner, therapist needs to assess.
	MMORPG players, when compared with other types of computer gamers, reported (1) similar levels of satisfaction with their social life, (2) more interference with offline socializing and new friendship development.	Excessive play may result in variant life trajectories between partners (potential life cycle impairment), which ultimately impairs the couple.	Because gamers enjoy gaming with family and friends, focus on broadening social relationships and reducing pathology.

TOPIC	RESULTS	EFFECTS & VULNERABILITIES ON COUPLES	CLINICAL CONSIDERATIONS
	(Smyth, 2007).		
Intimacy	Heavy users of online games reported a lower quality of interpersonal relationships compared to both light and non-players. (Lo, Wang, & Fang, 2005).	Individuals who expect shared activities in a relationship may be dissatisfied with how their relationship progresses.	Discussion of expectations; redefine social sharing.
	Individuals who sought relationships online reported significantly lower intimacy in their online relationships than offline romantic relationships, but less intimacy in their offline relationships than those who had no online relationships. (Scott et al, 2006)	Engaging in relationships online may protect someone from having to fully be vulnerable to another person. May be a perception that online relationships are "safer" than offline relationships.	Discuss how to be vulnerable in offline relationships. Develop other ways to protect self which involve the partner. Joining and EFT may be effective.
	Fewer than 50% of gamers agree that playing MMORPGs had a negative effect on their offline relationships. (Cole & Griffiths, 2007).	Partners may present with a lack of awareness of how their real life relationships are affected	. Help gamer develop awareness of the implications for the relationship.
	Female MMORPG players are more likely to meet up with online friends in real life (Cole & Griffiths, 2007).	Non-gaming partner may be feel left out and unclear about his/her role in the gamer's social network	Psychoeducation; discussion of the non-gamer's social role
	Gamers preferred to play with friends, had more fun with gaming than with offline friends, could talk easier with others while gaming, do not report social relationships as important, and feel happier while gaming than other places (Ng, & Wiemer-Hastings, 2005).	Being a part of a social network with its standards, demands, code of conduct and participation requirements may act as an alternative to real life community. This may impair the connection with primary partner.	Discuss how the game facilitates communication and happiness and implement these into the relationship

	RESULTS	EFFECTS & VULNERABILITIES ON COUPLES	CLINICAL CONSIDERATIONS
TOPIC	Over 2/3 of players have made good friends within "World of Warcraft". Half of gamers who make good friends online have met them in real person; however, less than one third of gamers found themselves attracted to another player. (Scott, Mottarella, & Lavooy, 2006).	Engagement in more friendships unknown to the other partner may create problems, as well as the energy and time invested online. Jealousy and anger may develop. Non-gamer may feel inadequate to successfully engage partner.	Assess reasons for friendship patterns online to address the deficiencies (or challenge an unrealistic belief) in treatment. Identify what prevents social strategies from being used offline.

Reference	RESULTS
Bessiere, K. Seay, F., & Kiesler, S. (2007). The ideal self: Identity exploration in World of Warcraft. Cyberpsychology & Behavior, 10(4), 530-535.	Players create online characters that are close to their ideal.
	Players showing depression rate their created online character as more ideal than they rate their actual self
Charlton, J. P., & Danforth, I. D.W. (2005). Distinguishing addiction and high engagement in the context of online game playing. Computers in human behavior, 23, 1531-1548.	Players who can be classified as being addicted need not manifest tolerance, euphoria and cognitive salience that are traditionally used criteria to diagnose addiction.
Chen, C., Sun, C., & Hsieh, J. (2008). Player guild dynamics and evolution in massively massively multiplayer online games. Cyberpsychology & Behavior, 11(3), 293-301.	Players of MMORPG join guilds that act as online communities which can be characterized into several distinct types; small, large, elite, unstable and newbie with their own characteristics.
Chumbley, J., & Griffiths, M. (2006). Affect and the computer game player: The effect of gender, personality, and game reinforcement structure on affective responses to computer game-play. Cyberpsychology & Behavior, 9(3), 308-316.	Gender does not effect emotional reactions with regard to the willingness to play in the presence of positive or negative reinforcement.
	Player's experience, impulsivity and gender does not predict their propensity to play.

Cole, H., & Griffiths, M. D. (2007). Social interactions in massively multiplayer online role-playing gamers. Cyberpsychology & Behavior, 10(4), 575-583.	Male players have significantly more good friends within the MMORPG than females.
	Males MMORPG players are more likely to meet up with online friends at a LAN meeting.
	Female MMORPG players are more likely to meet up with online friends in real life.
	Less than half of players believe that playing MMORPGs had a negative effect on their relationships with people with whom they did not play.
	Female MMORPG players are more likely than males to be attracted to other players and to date other players.
	Over half MMORPG players believe that their real-life friends are more trustworthy than their online friends.
	Female MMORPG players are more likely compared to male players to discuss family problems, loss of loved ones, sexuality issues, discrimination and work problems with their online gaming friends.
	Females are more likely to report their motivations for play as therapeutic refreshment while males report curiosity, astonishment and interest.
Grusser, S. M., Thalemann, R., & Griffiths, M. D. (2007). Excessive computer game playing: Evidence for addiction and aggression. Cyberpsychology & Behavior, 10(2), 290-292	12% of players meet the criteria for addiction therefore considered to be pathological gamers.
	Pathological gamers have higher "expected relief of withdrawal symptoms when gaming" and higher "craving due to the expectation of a positive outcome of gaming".
Huang, Y. (2006). Identity and intimacy crises and their relationship to internet dependence among college students. Cyberpsychology & Behavior, 9(5), 571-576.	Players who play excessively and those who do not are not significantly different in their decision-making abilities.
	Players that spend more than 10hrs per week exhibited weaker signs of identity achievement and intimacy development, and stronger signs of identity diffusion and isolation.
Klimmt, C., Hartmenn, T., & Frey, A. (2007). Effectance and control as determinants of video game enjoyment.	The perceived amount of effectance a player has on a game has a positive effect on a players enjoyment.

Cyberpsychology & Behavior, 10(6), 845-847.	The perceived amount of control a player has on a game does not have a positive effect on a players enjoyment.
Ko, C., Yen, J., Yen, C., Chen, C., & Wang, S. (2008). The association between internet addiction and belief of frustration intolerance: The gender difference. Cyberpsychology & Behavior, 11(3), 273-278.	Internet addiction is found to be higher in males than females.
	Adolescent players with internet addiction hold higher irrational beliefs of frustration intolerance; this is found more in females.
Lo, S., Wang, C., & Fang, W. (2005). Physical interpersonal relationships and social anxiety among online game players. Cyberpsychology & Behavior, 8(1), 15-20.	Heavy users of online games show a significantly lower quality of interpersonal relationships compared to both light and non-players. (Ko)
	Heavy users experience significantly higher levels of social anxiety compared to both light and non-players.
Ng, B. D., & Wiemer-Hastings, P. (2005). Addiction to the internet and online gaming. Cyberpsychology & Behavior, 8(2), 110-113.	MMORPG users would rather spend time in the game than with friends, have more fun with in-game friends than people they know, found it easier to converse with people while in-game, did not find social relationships as important, and felt happier while in the game than anywhere else.
Norris, K. O. (2004). Gender stereotypes, aggression, and computer games: An online survey of women. Cyberpsychology & Behavior, 7(6), 714-727.	Women who play computer games and women who use chat rooms reported the environment as equally hostile.
	Women who play computer games and women who use chat rooms are no different in their stereotypes attitudes.
	Women who play computer games and women who use chat rooms are no different in their level of acceptance of sexual violence.
	There are no gender identity difference between women who play computer games and women who use chat rooms.
	Frequency or type of computer use is not related to computer use at work
Peters, C. S., & Malesky, A. (2008). Problematic usage among highly-engaged players of massively multiplayer online role playing games. Cyberpsychology & Behavior, 11(4), 481-484.	MMORPG guild members show a moderate negative correlation with agreeableness, moderate positive correlation with neuroticism, moderate positive correlation with the number of hours played per week, a low negative correlation with extraversion, and a low negative correlation with conscientiousness when given the NEO Personality Inventory.

Rosenthal, G. T., Soper, B., Folse, E. J., & Whipple, G. J. (1998). Role-play gamers and national guardsmen compared. Psychological Reports, 82, 169-170.	Gamers were shown to have many close friends comparable to guardsmen and their mean score of neuroticism was not significantly different from the Guardsmen mean.
Scott, V. M., Mottarella, K. E., & Lavooy, M. J. (2006). Does virtual intimacy exist? A brief exploration into reported levels of intimacy in online relationships. Cyberpsychology & Behavior, 9(6), 759-761.	Individuals who pursued computer-mediated relationships reported significantly lower intimacy in their virtual relationships compared to their own face-to-face romantic relationships.
	Individuals who pursued computer-mediated relationships have less intimacy in their face-to-face relationships compared to individuals who only had traditional non-computer-mediated relationships.
	Over two-thirds of players of both genders have made good friends within the WoW game, almost half of this sample had met with online friends in real-life situations and less than one third found themselves attracted to another player.
	Majority of players report that they enjoy playing WoW with their real-life friends and family.
Smyth, J. M. (2007). Beyond self-selection in video game play: An experimental examination of the consequences of massively multiplayer online role-playing game play. Cyberpsychology & Behavior, 10(5), 717-721.	MMORPG players compared with other types of computer gamers showed significantly worse overall health and worse sleep quality however did not differ on reports of overall academic performance yet reported the game to have interfered more with their schoolwork.
	MMORPG players compared with other types of computer gamers did not report different levels of satisfaction with their social life yet more interference with real-life socializing and development of new friendships.
Teng, C. (2008). Personality differences between online game players and nonplayers in a student sample. CyberPsychology & Behavior, 11(2), 232-234.	Online game players in this study reported higher scores in the three personality traits (openness, conscientiousness & extraversion) that lead to personal success and self-efficacy in competition.
Wang, C., & Wang, C. (2008). Helping others in online games: Prosocial behavior in cyberspace. Cyberpsychology & Behavior, 11(3), 344-346	Altruism and reciprocity has an impact on players prosocial behavior.
	Male players are more likely to help female players; female players show no difference.

	Players with more physical aggressive personalities manifest more violent behaviors and more frequent violent interactions when playing.
	Problematic online game playing is linked and may be caused by escapism and advancement in the game.
	Players motivations to play can be grouped into three categories; achievement (advancement, mechanics, competition), social/interaction (socializing, relationship, teamwork), immersion (discovery, role-playing, customization).
Wei, P., Ming, L., & Yi, M. (2008). Do aggressive people play violent computer games in a more aggressive way? Individual difference and idiosyncratic game-playing experience. CyberPsychology & Behavior, 11(2), 157-161.	Content analysis of the recorded videos of each individual's game playing revealed that people with more physical-aggressive personality manifest more violent behaviors; more frequent violent interactions, more frequent punching and kicking actions and more frequent shootings.
Yee, N. (2006). Motivations for play in online games. CyberPsychology & Behavior, 9(6), 772-775.	3 main components emerged; Achievement, Social and Immersion. Escapism component followed by hours played per-week and advancement was shown to be the best predictor of problematic usage.

In general, gaming partners pursuing computer-mediated relationships reported less intimacy in their face-to-face relationships compared to individuals who only had traditional non-computer-mediated relationships (Huang, 2006; Lo et al., 2005; Scott et al., 2006). Additionally, those involved in computer-mediated relationships demonstrated significantly lower levels of intimacy in comparison to their own face-to-face romantic relationships.

Results of one study (Ng & Wiemer-Hastings, 2005) showed that MMORPG users: (1) would rather spend time in the game than with their offline friends, (2) have more fun with in-game friends than people they know offline, (3) found it easier to converse with people while in-game, (4) did not find social relationships as important as non-users, and (5) felt happier while in the game than anywhere else. This indicated that couples may use gaming as a shared leisure activity to enhance their enjoyment and as an outlet to socialize and decrease stress. Other findings evidenced over two-thirds of players had made good friends within the "World of Warcraft" game and almost half of this sample had met with online friends in real-life situations (Scott et al., 2006). Female MMORPG players were rated as more likely to meet up with online friends in real life (Cole & Griffiths, 2007). In contrast, male rapport and camaraderie appear to be based on mutual gaming, overcoming obstacles and shared objectives which lead them to a sense of closeness, albeit in a structured environment (Cole & Griffiths, 2007).

Literature Interpretation: Clinical Implications

How Online Gaming Benefits Couple Relationships

Socialization skills. In MMORPGs, joining a guild or clan is the primary way to accomplish tasks and progress through levels, encouraging teamwork, camaraderie, and collaboration. Five of the studies focused on the social interactive quality of social interaction (see Chen, Sun, & Hsieh, 2008; Cole & Griffiths, 2007; Lo, et al., 2005; Scott et al., 2006; Wang & Wang, 2008). Couples may benefit from the gaming partners experience with teamwork and collaboration in many areas of their life. For example, Cole and Griffiths (2007) found that most MMORPG players believe that the gaming did not negatively affect their offline relationships.

Other therapeutic tasks include engendering hope, assisting the couple to use their knowledge to generate solutions to their concerns, and facilitate an environment in which couples can communicate appropriately to overcome their concerns. Therapists can use the socialization skills that the online gamer has established as a way to connect to the offline coupling.

Gendered interactions. In terms of gender, the articles also showed that female MMORPG players were more likely than others to discuss close personal issues with online gaming friends then male gamers. This finding seems to be consistent with already known information about gender roles and the sharing of personal information (Becker, 1987; Felmlee & Muraco, 2009). Therapists working with gaming couples should consider the gender of the player as a way to shed light on the dynamics of the online relationships. Disagreements, for example, may arise when partners conceptualize online relationships different from one another. For instance, in a male-female couple, a female

partner may view online friendships of which much time is invested as intimate and the male partner may see his online friends as playmates with a greater utilitarian value such as advancing in the game (Vigil, 2007). In a female-female couple, there may be issues with the gaming partner being excessively emotionally intimate with online peers based on online interaction styles. In treatment, it can be useful to engage in a dialogue about these differing viewpoints to develop awareness around the differences and to reduce discord and anxiety.

Increased understanding of partner's context. Online gamers with the aforementioned personal characteristics are likely to display these characteristics outside of the MMORPG environment. Therapists who are aware that the gamer might possess some of the aforementioned traits may facilitate a conversation regarding the circumstances in which these characteristics are playing out in the couple's relationship. It may inform how the therapist can utilize psychoeducation in treatment around what is typical emotional sharing behavior for online gamers. Finally, when one partner engages in an activity identified as fun and relaxing to them, the satisfaction will trickle down into the relationship, resulting in positive changes.

Online gaming can be a way for players to alleviate negative feelings such as frustration, loneliness or boredom (Hussain & Griffiths, 2009) as well as becoming a tool to mask partner's emotions and anxiety. Therefore, it is also advisable to conduct an assessment regarding each partner's level of these feelings, as well as including aggression, something the research noted as higher in online gamers. Once the therapist understands the extent to which (if at all) these factors are prevalent within the individual or relationships, the therapist can incorporate them in the treatment plan in an appropriate way.

Use of fantasy. To participate in MMORPGs, gamers create or select an image (known as an "avatar") to represent their character. Three studies addressed the quality of fantasy included in virtual self-enhancement through a player's character, dynamics within the game, and evolution of online environments and gaming as a means of procrastination and escape (Bessiere, Seay, & Kiesler, 2007; Chen et al., 2008; Yee, 2006). Fantasy has been conceptualized as a helpful adjunct to treatment (Hessellund, 1976; Hicks & Leitenberg, 2001). It can be used to fill a variety of relationship functions. For example, the therapist can assess the role of fantasy in the couple's everyday life, and determine if fantasy would be a useful component in treatment, or whether it contributes to the problems the couple is having. Because one of the key attractions in online gaming is the extent to which each individual can create their own character (including internal traits and appearance), an ability to live in the fantasy role well could be extremely useful for strengthening the couples' relationship by utilizing the couple's ability/strengths to be creative, flexible and playful with each other (see Deacon & Thomas, 2000).

How Online Gaming Complicates Couple Relationships

Fantasizing. Fantasy within gaming can provide benefits to a relationship – depending upon the motivations for play, however online gaming may interfere with intimacy. For example, accommodation is one of six Internet-vulnerabilities in Internet

affairs and other technology-related problems for couples (Hertlein, 2009) and is defined as an individual who feels constricted in their day-to-day life and uses the Internet as a means to escape (or to accommodate this aspect of the self). When the accommodation comes at the expense of the relationship or is the result of avoiding intimacy in the primary relationship, it can be problematic for couples. Accommodation is also evident in the ability to customize one's character within the virtual world of the MMORPG. Players can construct their online characters with their choice of gender, appearance, personality, function, and skills. This is critical to understand for couples because some literature suggests the computer facilitates the real versus ideal self (see, for example, Ben-Ze'ev, 2004). To sum it up, "The Internet is a way to escape the quotidian, corporeal "known" self. It is not just experimentation with different identities, but is experienced as living and relating to others through them." (Hertlein & Sendak, 2007, p. 4). Understanding how the gaming partner may feel discontent and weary with their routine life, the therapist can interview creatively from a supportive stance. Ultimately this will facilitate greater empathy and willingness to come together as a couple to fulfill these needs in each other.

Intimacy disruption. As discussed above, understanding a gamer's motivation is a central theme in the empirical studies and assists therapists in identifying how the motivation to play can be incorporated into strategies to support the couple relationship. For example, if a primary reason that a partner plays online is to relate and feel close to others, there may be a deficit in the couple's connectedness which can be addressed in treatment. What is missing from this literature, base, however, are the motivations from separating from one's partner. If there is a partner, for example, who uses gaming as a way to reduce intimacy between themselves and their partner, the therapist needs to be aware of such a motivation in order to assess properly. Thus, it is imperative that a therapist inquire as to the motivations for beginning gaming and what sustains it, as well as inquiring what prevents the nongaming partner from playing.

In cases where both partners are gamers and it is a problem within the relationship, the therapist should gain a clear understanding of what behaviors specifically contribute to the problems the couple experiences. There may be differences, for example in the types of games played, the people with whom the games are played, and the types of communication that are exchanged with other players.

The issue of addiction. Although playing online games is not an indication of an addiction, five of the studies reviewed focused on the issue of problematic or addictive gaming (Charlton, & Danforth, 2007; Grusser et al., 2007; Huang, 2006; Ko, Yen, Yen, Wang & Chang, 2008; Peters & Malesky, 2008). This seemed to be consistent with our observation in that frequently, the gaming partner's behavior is conceptualized by the non-gaming partner as an 'affair of addiction' because time and energy are diverted from the primary relationship and directed toward a third person/object (either the computer game itself or a specific person/character within the gaming world). Although the gaming partner in a relationship might acknowledge that there are differences in their time spent playing, there may be little understanding as to the possibility that their game playing is providing an opportunity for ruptures in the relationship. Distinguishing whether the gaming behavior is an addiction may lead to disagreements between the partners because

in general, the non-gaming partner classifies the gaming partner as having an addiction. This dynamic creates a cycle of blame, defensiveness, guilt and resentment. This cycle needs to be addressed in treatment in the way that is consistent with the therapist's already established framework.

In understanding addiction as a possible mechanism in gaming, couple and family therapists should conduct a thorough assessment regarding the extent of problematic gaming and the possibility of addiction. As in other addictions, gaming addiction evidences tolerance, withdrawal, a desire to stop gaming and unsuccessful attempts to abstain from play. These manifest similarly in traditional addiction treatments.

Inclusion/exclusion. Through our data analysis, we identified gaming issues that both support a couple and detract from a couple's relationship. One of Shutz's (1966) criteria for satisfied couples is inclusion/exclusion. Although the gaming partner in a relationship has an entire network of interactions, loyalties, and responsibilities within the gaming world, these networks may be invisible and intangible to the non-game player. Included in this network and social structure may be people who are unknown to the non-gaming partner yet who require their partner to make commitments to play at specific times in order to accomplish objectives with the group. For example, Cole and Griffiths (2007) found that male MMORPG players had a significant number of good friends in the MMORPG world as compared to female gamers, while female gamers are more likely to meet up with their gaming friends in real life. This finding suggests that partners of female gamers are more likely to be included in the social network, whereas male gamers are less likely to include their female partners in this network, thus leading to a greater degree of exclusion

If increased time is spent on gaming separate from/to the exclusion of their partner, feelings of jealousy, resentment and hurt may arise; primarily for two reasons. First, because MMORPGs are played in groups, emotions arise when the non-gaming partner perceives the gaming partner as giving the other online players a higher priority. For example, non-gaming partners may express excessive burden managing the responsibilities of child care and the household chores while their partner plays, thus allowing resentment to develop within the relationships.

Secondly, the connection that the gaming partner develops online with members of their guilds/teammates can forge jealousy because of the exclusion the non-gaming partner feels regarding the gaming partner's world. Intimacy is constructed within the context of a couple's relationship and is a critical component of a couple's life (Weeks & Hof, 1987). Intimacy is generally defined as a sharing of one's open self with their partner (Weeks & Hof, 1987), but is believed by some to be created within shared experiences (Simmel, 1971). The threat with online gaming is that there is the potential for this intimacy to be developed to the exclusion of the primary partner. Certainly, the implications for online gaming for couples, in some relationship contexts, can be highly destructive.

Studies show that individuals who pursued relationships online reported less intimacy in their face to face relationships, and their sense of self online reciprocally influences their self in offline relationships (McKenna & Bargh, 1998; McKenna, Green, & Smith, 2001; Scott et al., 2006). Therefore, therapists may encounter gamers who are relatively unaware of how gaming affects their relationship, especially since findings

indicate that there is a lower level of partner-to-partner intimacy. In treatment, these couples may express disagreement regarding their perceived level of intimacy and the expected level of emotional connection within the relationship. The therapist should ask directly about the extent to which each person feels included/excluded within the relationship, and follow up with specific inquiries as to whether the gaming is in any way affiliated with each of their respective conceptualizations.

Flexibility/rigidity. Although not an initial part of the categories in the outset of the project, we identified the themes of flexibility/rigidity and cohesion/separateness as being a relevant characteristic for couples. Because gamers often originate from many different locations and time zones, there has to be some flexibility to accommodate everyone's schedules. For some couples, the allegiance of the group's schedule over personal home schedule is problematic as it can manifest in one partner planning routines around his/her game schedule while the other partner feels forced to submit to a schedule upon which she or he may have had little to no input. Couples struggling with this issue may be divided on the extent to which the gaming partner is present in the household or relationship when the schedules of others seem to take precedence over that of the primary partner.

In general, characteristics of MMORPGs provide some insight regarding what sustains one's play and, consequently, one's decisions about how to share their time away from the family or the couple, yet there is very little research on the characteristics about the couples in which one member is a gamer. It may be, for example, that successful couples with one gaming partner and one non-gaming partner possess greater degrees of Olson's concept of flexibility in their relationship (Olson & Gorall, 2003). More research needs to be conducted focusing on the characteristics of couples in order to better understand the communication processes and interpersonal dynamics. Although there are a variety of ways to address a couple's dynamics around flexibility and rigidity, one way might be utilizing Olson's circumplex model (Olson & Gorall, 2003). This would enable the therapist and couple to understand the flexibility/rigidity in their current relationship as well as the patterns of flexibility/rigidity within their family of origin. The therapist can work with the couple to develop more appropriate levels of flexibility in a way that supports both partners and allows for individuality as well as membership within the couple.

Limitations

Our study was concerned with discovery, description and finding meaning and with such efforts, there is the possibility of biases and subjectivity. While we actively worked to suspend judgment and "bracket out the outer world" (Laverty, 2003, p. 6) in approaching this topic, this may be a limitation of our study. As mentioned in the analysis section, we recognized that our orientation became about how this issue would manifest clinically, thus potentially biasing our interpretation to focus on the maladaptive effects gaming has on a couple's relationship. Clearly our tables reflect a greater emphasis on treatment, thus suggesting a problem with online gaming in relationships. There are many couples for whom online gaming does not create a challenge within the relationship, and therefore these clients will not come to treatment expressing this as an issue. Another

significant limitation was the preponderance of articles characterized as "rapid communication", thus resulting in more questions than answers in terms of how a study was conducted and how much one can rely on the findings.

Conclusion and Recommendations

Research

According to our findings, research in online gaming and interpersonal issues falls into several main topic areas: personhood, motivations and addiction, gender, time management and daily duties and intimacy. Yet there was little specific information devoted to how online gaming manifests in couples. There should be more research on online gaming and relationships. Thus, we advocate for increased rigor in research in a few specific ways. First, as was mentioned above, many of the articles related to gaming were published as rapid communication articles. In this context, it is difficult to evaluate the methodologies used and to improve upon them. It would also be helpful for authors and researchers to submit their articles in full length rather than rapid communication format, and for journal editors to solicit such manuscripts. Again, to have more detailed knowledge about the specifics of the studies will further enhance reliability and allow for replication.

Second, it may be best to use an adult sample as opposed to adolescents and use equal numbers of men and women in future studies. We also encourage researchers and authors in this area to move beyond the individual elements/demographic information about player and move into how game playing is affected by and affects the couple and family relationship.

Clinical Practice

In working with cases where there is a gaming issue, therapists can use the interpretation of the literature to guide assessment and treatment. The role of the therapist and their theoretical orientation (or the way they conceptualize cases) is a critical piece in understanding how the results of the studies would be interpreted and how the clinical considerations would shift. There may be some therapists who have less experience with gaming and, consequently, cannot fully understand the effects (both positive and negative) such an activity might have on a couple. Another role of the therapist is to be someone who educates as well as intervenes. Furthermore depending upon a therapists' theoretical orientation, different dimensions of gaming may be focused on (i.e., attachment needs, storying, etc.). As the research in this area is still emerging, there is much to know about the motivations of gamers, social dynamics within a game, effects of the game on one's time management, etc. As our knowledge base increases, therapists can normalize the couple's experience with what is known about gaming as well as identifying and joining with couples who express an area of concern. A therapist who is knowledgeable about the world of MMORPGs would avoid dismissing or overlooking their issues and would be better at collaborating with the couple towards treatment goals.

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Appendix A

	Authors Year of publication	Research question	Hypothesis	Sample	Measures	Reliability of measures	Results	Critique	
								Research	**Treatment (couple relationships)**
1	Bessiere, K. Seay, F., & Kiesler, S. (2007). The ideal self: Identity exploration in World of Warcraft. Cyberpsychology & Behavior, 10(4), 530-535.	Are MMORP games used to explore the ideal self?	World of Warcraft players would create their main character more similar to their ideal self than they themselves were. Those who are dissatisfied with aspects of themselves were more likely than those who are content with the way they are to engage in virtual self-enhancement through their character.	51 participants ages 18-27 years (43 men, 8 women) Ave age:	A battery of questions about WoW, their actual self, their character and their ideal self. An adjective rating method, a 44-item version of the Big Five Personality Inventory with 5 categories; conscientiousness, extraversion, neuroticism, agreeableness, openness to experience. To measure psychological well-being the 12-item Center for Epidemiologic Studies Depression	Big Five Personality Inventory 5 categories; conscientiousness Cronbach α of 0.88, extraversion Cronbach α of 0.87, neuroticism Cronbach α of 0.85, agreeableness Cronbach α of 0.65, openness to experience Cronbach α of 0.82. Center for Epidemiologic Studies Depression Scale (CES-D) Cronbach α of 0.60. Positive Affect Negative Affect Scale (PANAS)	Those with higher depression scores rated their character as more ideal than they rate their actual self. There is no difference-all players appear to create characters who are equally close to their ideal.	(-) Participants were mostly male between the ages of 18-27 (-) Study explored the individual dimensions of players only (+) Participants were current and active gamers (-) Convenience sampling method	(-) This is not the characteristic population that MFTs see in the tx of couples (-) Focus on the player's individual identity, no connection made to the system or couplehood which may help to maintain the phenomenon (-) Possible treatment issues arising from ideal self-exploration and relationships were not discussed

					Scale (CES-D) and a subset of items from the Positive Affect Negative Affect Scale (PANAS).	Cronbach α of 0.85			
2	Charlton, J. P., & Danforth, I. D.W. (2005). Distinguishing addiction and high engagement in the context of online game playing. Computers in human behavior, 23, 1531-1548.	Is the conventional criteria of addiction applicable and sufficient to be used for the diagnosis of Internet addiction? [*Core criteria:* withdrawal, conflict, relapse and reinstatement, and salience related to behavior. *Peripheral criteria:* euphoria, tolerance, and salience related to cognitions.]	Players who are considered as having an internet addiction, manifest only the core criteria of addiction and spend a significantly greater amount of time playing per week.	432 participants, majority was male (mean age 28.83 years), the rest was female (mean age 32.87 years).	Asheron's Call-specific Addiction-Engagement Questionnaire (29-item instrument). Saucier's IPIP Seven Factor Personality Scale (not discussed in this paper).	No info.	The criteria of tolerance, euphoria and cognitive salience are of limited use in the classification of people as behaviorally addicted to computing behaviors.	(+) Participants were all MMORPG players (-) 85.7% males (+) Players were from more than 5 different countries (-) Study explored the individual dimensions of players only (-) Research question and investigation were focused on the criteria for which a player can be considered addicted (±) Judgment sampling method	(-) Areas of questioning were not related to couple relationships (-) Possible treatment issues arising from high engagement in game play and relationships were not discussed
3	Chen, C., Sun, C., & Hsieh, J. (2008).	What are the dynamics of online community in	[Explore the game world rules and changes in	62 Taiwanese players (21 player-versus-environment,	A plug-in attached to avatars that retrieved	No data on reliability-but the method is too cool.	The analysis determined that game world guilds	(-) Sample was taken from Taiwanese servers only	(-) While the results indicate behavior and characteristics

	Player guild dynamics and evolution in massively massively multiplayer online games. Cyberpsychology & Behavior, 11(3), 293-301.	guilds in MMORPG?	player purposes and expectations.]	41 player-versus-player)	information regarding avatar nickname, race, class, level and location that was automatically recorded three time each day.		can be characterized into several distinct types- small, large, elite, unstable and newbie, all with particular characteristics involving activity, stability and survival.	↓ generalizability (+) Data collection was electronic thus not subjective (-) Study explored the individual dimensions of players only (-) Convenience sampling method	of players in regards to their membership and engagement in relationships online, offline relationships, treatment applications are not explored (-) Possible treatment issues arising from dynamics of online communities and relationships were not discussed
4	Chumbley, J., & Griffiths, M. (2006). Affect and the computer game player: The effect of gender, personality, and game reinforcement structure on affective	What effects do personality, in-game reinforcement characteristics, gender and skill have on the emotional state of a game player?	H1: Negative reinforcement will be positively related to frustration. H2: Positive reinforcement will be positively related to willingness to continue and return to play. H3: Impulsive people will be	33 undergraduates (mean age of 21.3 years) 17 male, 16 female	Participants were asked to play the game Micromachines for a specified amount of time at different difficulty settings. They were then asked to rate on two seven-point Likert type scale that assessed 8 aspects of their	This EPS measure appears to be widely used –in its entirety- and boasts of its high reliability however the exact Cronbach α of the Impulsivity scale within it was not found.	Gender and impulsivity had no effect on emotional reactions to neither game-play nor a player's "willingness to continue play". The players experience, their impulsivity and gender did not predict "propensity to	(+) Equal number of male and female participants (-) Small sample size, n=33 (+) Used well established measure, Eysenck's EPS Impulsivity scale (-) Study explored the individual	(+) Findings show that both genders respond to gaming similarly which may inform couple treatment (-) Study does not include characteristics or implications for couple relationship treatment

	responses to computer game-play. Cyberpsychology & Behavior, 9(3), 308-316.		more willing to play and more susceptible to positive reinforcement. H4: Skill should moderate the effect of in-game reinforcement on affect (in particular, skill should be negatively related to frustration).		mood and their propensity to continue or repeat play, respectively. The Eysenck's EPS Impulsivity Scale (IVE).		play".	dimensions of players only (-) Sampling method not described	(-) Possible treatment issues arising from personality, in-game reinforcement characteristics, gender and skill, and relationships were not discussed
5	Cole, H., & Griffiths, M. D. (2007). Social interactions in massively multiplayer online role-playing gamers. Cyberpsychology & Behavior, 10(4), 575-583.	What are the positive social aspects of Massively Multiplayer Online Role-Playing Gamers? Does the development of virtual friendships sometimes develop into serious real-life friendships and relationships? Are there attractions between players within	Social interactions in online gaming form a considerable element in the enjoyment of playing.	912 self selected MMORPG players from 45 countries (70% male, 29% female, 1% did not give their gender) Sample age was between 11 to 63 years with a mean age of 23.6.	ANOVA Online questionnaire survey using a university-generated online data collection program (Autoform) and divided into 5 sections.		Males were found to have significantly more good friends within the MMORPG than females. Males were significantly more likely to meet up with online friends at a LAN meeting. Females were significantly more likely to meet up with online friends in real life. One in five	(-) Unequal male and female sample, self-selected, ↓generalizability (+) Sample derived from many countries (+) Questions targeted interaction and relationship characteristics, such as trust. (+) Study looked at family in regards to gaming (±) Judgment sampling method	(-) Dimensions such as romantic relationships and gamer partner was not studied and treatment was not discussed

| | | MMORPG environments? | | | | | participants believed that playing MMORPGs had a negative effect on their relationships with people with whom they did not play. Females were significantly more likely than males to be attracted to other players and to date other players. 4.8% of players believe that their online friends were more trustworthy than their offline, 53.3% believed their real-life friends were more trustworthy and the rest reported to difference. Females were significantly more likely to discuss family | | |

							problems, loss of loved ones, sexuality issues, discrimination and work problems with their online gaming friends. Females were more likely than males to report their motivations for play as therapeutic refreshment; males reported curiosity, astonishment and interest.		
6	Grusser, S. M., Thalemann, R., & Griffiths, M. D. (2007). Excessive computer game playing: Evidence for addiction and aggression. Cyberpsych ology &	Is excessive computer game playing evidence for addiction and aggression?	There is an addictive potential in gaming. There is a relationship between excessive gaming and aggressive attitudes and behavior.	7069 gamers (94% male with the mean age of 21.11 years)	Two online questionnaires concerning gaming behavior and associated variables as well as aggressive behavior and violent attitudes. ANOVA	No info.	Nearly 12% of participants complied with criteria for addiction therefore considered to be pathological gamers. Pathological gamers showed higher "expected relief of withdrawal symptoms when gaming"	(-) Large proportion of sample male (+) Big sample size (+) Sound methodology (±) Judgment sampling method	(-) Possible treatment issues arising from the addictive potential of gaming and offline relationships were not discussed

	Behavior, 10(2), 290-292						and higher "craving due to the expectation of a positive outcome of gaming". Aggressive behavior was significantly different but just with a small effect size.		
7	Huang, Y. Y. (2006). Identity and intimacy crises and their relationship to internet dependence among college students. Cyberpsychology & Behavior, 9(5), 571-576.	Is internet addiction a method of dealing with underlying psychological issues, such as problematic relationships, academic or work difficulties, and that the internet, like drug or alcohol is used as a means of procrastination and escape?	Research hypothesis: 1. Internet dependents will score lower on measures that reflected identity achievement and higher on identity diffusion. 2. Internet dependents will score significantly higher on measures that reflected lack of social skills, and isolation.	33,959 students in Taiwan (8,635 were gaming dependents.	Freshman survey MANOVA	Cronbach α of 0.62-0.92	Gaming dependents and non-dependents did not differ significantly on decision-making abilities. In general, those that spent more than 10hrs per week exhibited weaker signs of identity achievement and intimacy development, and stronger signs of identity diffusion and isolation.	(-) Age and gender of participants not specified (-) Sample population consisted of college freshmen all from Taiwan-generalizability (-) Conclusions drawn may be inaccurate-problem of the third variable (-) Convenience sampling method	(-) Possible treatment issues arising from identity and intimacy crises, and offline relationships were not discussed
8	Klimmt, C.,	What is the role	H1: The degree	500 volunteers	The stimulus	Online	Findings	(+) Over 50% of	(-) Possible

	Hartmenn, T., & Frey, A. (2007). Effectance and control as determinants of video game enjoyment. Cyberpsychology & Behavior, 10(6), 845-847.	of interactivity in game playing?	of effectance a video game offers has a positive effect on player's perceived enjoyment. H2.The degree of control a video game offers has a positive effect on player's perceived enjoyment.	between the ages 14-72 years (63.4% female)	was a java applet video game with three versions; one responded to the player normally, one which ignored input of the player with a probability of 33% and the last responded consistently but with increased speed making the player have less control over the object on the screen. An online questionnaire with 3 scales measuring affectance, perceived control and game enjoyment.	questionnaire with 3 scales measuring effectance α of 0.92, perceived control α of 0.93 and game enjoyment α of 0.92.	supported hypothesis 1 but not hypothesis 2. Findings suggests that a variety of mechanisms underlie the interactivity-enjoyment connection with one of them being effectance.	participants were female (-) Instruments were used to measure effectance and control as it contributed to game enjoyment (±) Judgment sampling method	treatment issues arising from game enjoyment and offline relationships were not discussed
9	Ko, C., Yen, J., Yen, C., Chen, C., & Wang, S. (2008). The association between internet	Are there negative influences with Internet addiction?	HI: There is an association between Internet addiction and frustration intolerance. H2: There are	2,114 students from 3 high schools in Taiwan between ages 15-23	Chen Internet Addiction Scale (CIAS). The FDS (with 4 dimensions; emotional intolerance, discomfort	The FDS: Cronbach α of 0.78-0.93	Adolescents with Internet addiction hold higher irrational beliefs of frustration intolerance and is found more	(-) Sample was high school seniors in Taiwan (+) Sample size was large and included good proportion of	(-) Possible treatment issues arising from internet addictions and frustration intolerance, and offline

	addiction and belief of frustration intolerance: The gender difference. Cyberpsychology & Behavior, 11(3), 273-278.		gender differences in frustration intolerance. H3: Gender difference is association between Internet addiction and frustration intolerance.		intolerance, entitlement & achievement). ANOVA.		in females however Internet addiction is more prevalent in males. (Great discussion linking Internet's immediate reinforcement causing irrational beliefs).	females (-) Methods used- high reliability (±) Random schools selected & convenience sampling method	relationships were not discussed
10	Lo, S., Wang, C., & Fang, W. (2005). Physical interpersonal relationships and social anxiety among online game players. Cyberpsychology & Behavior, 8(1), 15-20.	Are online games a source of social problems?	H1: Heavy users of online games have less fulfilling interpersonal relationships than individuals who spend very little or no time playing online games.	174 college students in Northern Taiwan (89 female) with mean age of 19.09 years, with 54 describing themselves as online game players.	Questionnaire divided into 3 sections; first section focused on data regarding frequency and time spent using the internet and playing online games, second section was Garthoeffner, Henry and Robinson's Interpersonal Relationship Scale (IRS), and third section was derived from	Interpersonal Relationship Scale (IRS) Cronbach α of 0.95	A Scheffe's multiple comparison test revealed a lower quality of interpersonal relationships for heavy users of online games compared to the other two groups at a statistically significant level. Social anxiety was shown to be higher with greater usage of online games.	(-) Sample was college students in Taiwan (+) Sample size was large and included good proportion of females (-) Convenience sampling method	(+) Results can be used to inform treatment as the correlation between time spent playing games and the quality of real-world relationships or level of social anxiety was focused on (-) Treatment issues and considerations were not discussed

| | | | | | H2: Heavy users of online game players experience high levels of social anxiety than individuals who spend very little or no time playing online games. | | Inderbitzen and Walters' variation of La Greca et. al.'s Social Anxiety Scale for Adolescents (SASA) | | A Scheffe's multiple comparison test showed that heavy players experience significantly higher levels of social anxiety compared to both light and non-players. | | |
| 11 | Ng, B. D., & Wiemer-Hastings, P. (2005). Addiction to the internet and online gaming. Cyberpsychology & Behavior, 8(2), 110-113. | Are there differences between online MMORPG game users and offline video game users? | Factors which cause internet overuse are similar to those that cause MMORPG overuse. | 48 respondents (mostly male) | Two surveys; first survey was derived from a survey developed by Pratarelli (2002) devised to gather data on the behavioral patterns of heavy Internet users, second was an individual survey gathering data on demographics. | Pratarelli's scale: it was determined that all the items in the scale were reasonably reliable producing overall alpha coefficients of 0.8929 for the Addiction factor, 0.7202 for the User factor, and 0.5707 for the sex factor. | MMORPG users would rather spend time in the game than with friends, have more fun with in-game friends than people they know, found it easier to converse with people while in-game, did not find social relationships as important, and felt happier while in the game than anywhere else. | (±) Study compared online MMORPG and offline video game players (+) Random sampling | (-) Possible treatment issues arising from addiction issues as related to offline relationships were not discussed |

12	Norris, K. O. (2004). Gender stereotypes, aggression, and computer games: An online survey of women. Cyberpsychology & Behavior, 7(6), 714-727.	Do aggressive personality characteristics attract people to aggressive video games? Do less women play video games because they are socialized to be non-aggressive? Why do women play less computer games than men?	H1: Women who play computer games will perceive their online environments to be more hostile than women who use the computer for chat rooms.	Over 300 women participated in the survey.	Hostile Online Environment Questionnaire (HOEQ), Sex Role Stereotyping Scale (SRSS), Acceptance of Interpersonal Violence (AIV), Personal Attributes Questionnaire (PAQ), Aggression Questionnaire (AQ).	Sex Role Stereotyping Scale (SRSS) Cronbach α of 0.80. Acceptance of Interpersonal Violence (AIV) Cronbach α of 0.59. Personal Attributes Questionnaire (PAQ) Cronbach α of 0.82. Aggression Questionnaire (AQ) Cronbach α of 0.80.	H1: No difference between two groups.	(+) Study examined female players which is uncommon for gaming research (-) Many hypotheses were not supported- study offers good knowledge yet area of focus was unfruitful (-) Sample characteristics were not discussed in-depth; age, ethnicity, etc. (+) Random sampling	(-) Possible treatment issues arising from gender stereotypes and aggression as related to offline relationships were not discussed
			H2: Women who play computer games will have less conservatively stereotyped attitudes towards women than women who use chat rooms only.				H2: Not supported.		
			H3: Women who play computer games will be more accepting of sexual violence than women who use chat rooms only.				H3: Not supported.		
			H4: Women who play				H4: Not supported.		

			computer games will have more masculine gender identities than women who use chat rooms only.					
			H5: Women who play computer games will be more aggressive than women who use computers for chat rooms but do not play computer games.				H5: Not supported.	
			H6a: Frequency of recreational computer use will be positively related to computer use at work, regardless of type of use. H6b: There will be an interaction between type				H6a&b: Neither were strongly supported.	

		of computer use and frequency of use in predicting use of computer at work.						
		H7: Gender identification moderates the relationship between type of computer use and computer employment such that women with more masculine gender identities will be more likely to use computers at work than those with more feminine gender identities.				H7: Not reported on.		
13	Peters, C. S., & Malesky, A. (2008). Problematic usage among highly-	What are some factors of problematic usage in MMORPG's?	Individuals that spend much time playing MMORPG (World of Warcraft) create problems in	196 players of World of Warcraft (173 male, 23 females, mean age of 23.34 years) belonging to	World of Warcraft-Specific Addiction-Engagement Questionnaire (27-item instrument). 50-	NEO Personality inventory-revised NEO-PI-R; Neuroticism Cronbach α of 0.86, Extraversion	Five significant correlations were uncovered: Moderate negative correlation with agreeableness,	(-) Study focused on intrapersonal aspects of players only (±) Judgment sampling method	(-) Possible treatment issues arising from problematic usage, personal characteristics

	engaged players of massively multiplayer online role playing games. Cyberpsychology & Behavior, 11(4), 481-484.		their lives.	one of the top online guilds (significant because these guild members are typically required to spend a minimum of 20 hours a week playing the game).	Question short version of McCord's M5 Questionnaire (adapted from the NEO Personality inventory-revised: NEO-PI-R). Questionnaire relating to the time spent playing and demographics.	Cronbach α of 0.77, Openness Cronbach α of 0.73, Agreeableness Cronbach α of 0.68, Conscientiousness Cronbach α of 0.81.	moderate positive correlation with neuroticism, moderate positive correlation with the number of hours played per week, a low negative correlation with extraversion, and a low negative correlation with conscientiousness.		as related to offline relationships were not discussed
14	Rosenthal, G. T., Soper, B., Folse, E. J., & Whipple, G. J. (1998). Role-play gamers and national guardsmen compared. Psychological Reports, 82, 169-170.	Are gamers socially withdrawn and emotionally immature?	Gamers and nonplayers differ in psychological characteristics.	54 males gamers and 64 male National Guardsmen	Demographic survey and the self-administered 25-item Revised Willoughby Schedule. T-tests.	N/A (Copy of scale in hand)	Gamers were shown to have many close friends comparable to guardsmen. Their mean score of neuroticism was not significantly different from the Guardsmen mean and not high enough to be considered of clinical significance.	(-) Only male gamers being compared to male national guardsmen (-) Non-random sampling (-) Instrument used measures intrapersonal issues and not interpersonal issues	(-) Possible treatment issues arising from social and emotional aspects, and offline relationships were not discussed
15	Scott, V. M.,	Can true	Face to face	546	Sternberg and	Sternberg:	Virtual relators	(-) Study did not	(+) May inform

Mottarella, K. E., & Lavooy, M. J. (2006). Does virtual intimacy exist? A brief exploration into reported levels of intimacy in online relationships. Cyberpsychology & Behavior, 9(6), 759-761.	intimacy develop online? How influential is the mode of communication on the establishment of closeness, warmth, self-disclosure, and the investment of emotion?	intimacy is stronger than virtual intimacy.	participants (30 males and 53 females reported having experienced a computer mediated, romantic relationship; 129 males and 334 females experienced only traditional face-to-face romantic relationships)	Rubin scales. Dependant sample t-tests. One-way ANOVA. (alpha 0.05)	α of 0.95 Rubin's love scale: α of 0.89	reported significantly lower intimacy in their virtual relationships compared to their own face-to-face romantic relationships. (Moreover, the virtual relators reported less intimacy in their face-to-face relationships compared to the levels of intimacy established in the face-to-face relationships of the traditional relators.)	focus on gamers only, but those who had computer-mediated relationships and those who did not (-) Sampling methods not discussed	treatment on issue of online vs. offline relationships (-) Possible treatment issues arising from virtual intimacy and offline relationships were not discussed
				1. Information about gender, age, country of residence, which game played, how often.		1. Mean age of gamers was 23.6 years, male dominated, mean amount of time played 22.85 hours and most common game World of		

| | | | | | 2. Questions about friendships within the game, attraction to other players and meeting online friends in real life. | | Warcraft.

2. Study showed 76.2% of male and 74.7% of female players had made good friends within the game. 80.8% reported that they enjoyed playing the same game with their real-life friends and family. 42.8% of participants had met with online friends in real-life situations. 31.3% found themselves attracted to another player. | | |
| | | | | | 3. Topics that players might discuss with online friends and examined level of trust. | | 3. 39.3% said that they would discuss sensitive issues with their online gaming friends that they would | | |

							not discuss with their real life friends.		
					4. Examined the different categories of gamers and their motivations to play.		4. Females were more likely to report their motivations for playing to be "therapeutic refreshment" whereas males were more likely to report playing because of curiosity, astonishment and interest.		
					5. Eight questions from the International Personality Item Pool on extroversion and one question rating themselves on a Likert scale from very introverted (1) to very extroverted (5).		5. Limited information reported by article.		
16	Smyth, J. M. (2007).	What are the longitudinal	Controlling for self-selection	100 university students aged	Participants were randomly	Method of tabulation given	MMORPG group reported	(-) Sample age-too young	(-) Possible treatment

	Beyond self-selection in video game play: An experimental examination of the consequences of massively multiplayer online role-playing game play. Cyberpsychology & Behavior, 10(5), 717-721.	effects on non-self selected gamers playing MMORPG compared with other modes of video gaming?	bias, MMORPGs will produce noticeably different consequences than playing other types of video games.	18-20 years old.	assigned to play one of four types of games; arcade, console, solo play on computer, MMORPG. Several measures were used specific to this study. ANOVA and omnibus F-test.	yet reliability of the measure itself was not reported on.	significantly worse overall health and worse sleep quality. They did not differ on reports of overall academic performance yet reported the game to have interfered more with their schoolwork. The did not report different levels of satisfaction with their social life yet more interference with real-life socializing and a greater development of new friendships.	(+) Great study design in showing the difference between online gaming and some component of real life relationships-impact (±) Conclusions can be drawn about motivations of play and interference with offline relationships (+) Random sampling	issues arising from MMORPGs and relationships were not discussed-treatment considerations discussed are not on couple relationships
17	Teng, C. (2008). Personality differences between online game players and nonplayers in a student	Are there differences in personality (as well as motivations) between online game players and non-players?	H1: Online game players are higher in openness than non-players. H2: Online game players are higher in conscientiousn	130 pairs of students matched by age and gender (between the age of 12-22)	Mini Marker scale of Saucier.	Cronbach α > 0.7	Online game players in this study reported higher scores in the three personality traits (openness, conscientiousn	(-) Sample was young and all from Taiwan ↓generalizability (+) Control group matched by age and gender (-) Judgment sampling method	(-) Possible treatment issues arising from personality differences and relationships were not

#								(+) Random sampling	discussed
	sample. CyberPsychology, 11(2), 232-234.		ess between players and non-players. H3: Online game players are higher in extraversion than non-players.				ess & extraversion) that lead to personal success and self-efficacy in competition.	(+) Random sampling	discussed
18	Wang, C., & Wang, C. (2008). Helping others in online games: Prosocial behavior in cyberspace. Cyberpsychology & Behavior, 11(3), 344-346	Why do players help other players in online game play? Is there a gender difference?	[Explores the influence of altruism, reciprocity and the gender difference in prosocial behavior.]	405 participants (301 male, 101 female) with mean age of 18.27 years	Online questionnaire survey; first part measuring altruism utilizing 10-items modified from NEO-Personality Inventory-Revised (NEO-PI-R) and the second part derived from Wasko and Faraj's scale. To measure prosocial behavior, Ladebo's 6-tem scale was used.	NEO Personality inventory-revised NEO-PI-R; Neuroticism Cronbach α of 0.86, Extraversion Cronbach α of 0.77, Openness Cronbach α of 0.73, Agreeableness Cronbach α of 0.68, Conscientiousness Cronbach α of 0.81.	Altruism and reciprocity had a positive impact on prosocial behavior. Male users were found to be more likely to help female users and female users would help same-sex or opposite-sex with no difference.	(-) Sample was too young and all from Taiwan (+) Well-known and establishes scale was used, ↑validity (±) Conclusions drawn helpful but limited due to the sample characteristics (±) Judgment sampling	(-) Possible treatment issues arising from playing behavior and relationships were not discussed
19	Wei, P., Ming, L., & Yi, M. (2008). Do aggressive people play	Does personality influence the way people play and experience a game?	Players with more aggressive personality plays the game (The	40 students (34 male) from the Midwestern University participated.	The physical aggression subscale in Buss and Perry's Aggression	Buss and Perry's Aggression Questionnaire Cronbach α of 0.85-0.90	Content analysis of the recorded videos of each individual's game playing	(-) Convenience sampling method/not described (-) Sample from one university	(-) Possible treatment issues arising from aggressive or violent

	violent computer games in a more aggressive way? Individual difference and idiosyncratic game-playing experience. CyberPsychology & Behavior, 11(2), 157-161.		Godfather, True Crimes: Streets of LA) more aggressively.		Questionnaire. Subjective observation, measure and coding of players violent and non-violent interaction while playing.		revealed that people with more physical-aggressive personality manifest more violent behaviors; more frequent violent interactions, more frequent punching and kicking actions and more frequent shootings.		behavior and relationships were not discussed
20	Yee, N. (2006). Motivations for play in online games. CyberPsychology & Behavior, 9(6), 772-775.	What are some motivations for game playing online?	[A factor analysis to create an empirical model of player motivations.]	Data was collected from 3000 MMORPG players through online surveys publicized at online portals that catered to MMORPG players from several games; Everquest, Dark Age of Camelot, Ultima Online and Star Wars Galaxies.	A list of 40 questions related to player motivations was generated based on Bartle's Player Types. Young Diagnostic Questionnaire.	Link to Bartle's article and player typology: http://www.brandeis.edu/pubs/jove/HTML/v1/bartle. Html Young Diagnostic Questionnaire Cronbach α of 0.77.	3 main components emerged; Achievement, Social and Immersion. Escapism component followed by hours played per-week and advancement was shown to be the best predictor of problematic usage.	(+) Analyses of results possessed high validity (-) Study explored the individual dimensions of players only (-) Sampling method not discussed	(-) Possible treatment issues arising from motivations of game play and relationships were not discussed

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