

ABSTRACT

Title of Thesis: THE PRESENCE OF PLAYFULNESS IN THE CONTEXT OF COUPLE
RELATIONSHIP, RELATIONSHIP SATISFACTION AND ITS
ASSOCIATIONS WITH SYMPTOMS OF DEPRESSION
Pamela Herrick, Masters of Science, 2018

Thesis Directed by: Dr. Patricia Barros, Assistant Clinical Professor, Family Science

The present study investigated the associations between playfulness in the context of couple relationship, relationship satisfaction, and symptoms of depression. Research suggests the potential for play to help improve relationship quality and decrease the symptoms of depression. However, the empirical evidence is limited in the literature. This study was a secondary analysis of data from 294 individuals seeking couple therapy at a university based family clinic. Two significant main effects were found in this study. Both the increase in relationship satisfaction is associated with decreased depressive symptoms and the increase of play, above and beyond relationship satisfaction, is associated with decreased depressive symptoms. Gender as a moderator was not established between playfulness and depression. Implications of these findings are discussed.

THE PRESENCE OF PLAYFULNESS IN THE CONTEXT OF COUPLE RELATIONSHIP,
RELATIONSHIP SATISFACTION, AND ITS ASSOCIATION WITH SYMPTOMS OF
DEPRESSION

by

Pamela Herrick

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Advisory Committee:

Assistant Clinical Professor Patricia Barros, Ph.D., Chair

Professor Norman B. Epstein, Ph.D.

Assistant Professor Mona Mittal, Ph.D.

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Forward

Dear reader,

As you prepare to embark upon this exploration of playfulness, allow me invite you to pause and share in a brief experience.

Close your eyes. (Yes, I grasp your conflict here, how can you finish reading these instructions if your eyes are closed? Please, tolerate this confusion temporarily.)

Take a deep breath. Now another. Turn your focus inward and let your mind dally long enough to recall a playful experience. It could be recent or it may be an enduring memory from childhood; maybe it was a favorite toy from your schooldays, or a more current recollection such as the peals of laughter that erupted from your child while pushing them on a playground swing. Perhaps it was playing with a beloved pet as a puppy? Possibly, it was a memory, secreted in the tufts of imagination, of a crisp fall evening collecting candy as a costumed trick-or-treater at Halloween.

Bring this thought to your mind fully and feel its presence. Stay with this memory for a moment.

Whatever your mind settled upon, grant yourself permission to begin to think about how this reminiscence of playfulness made you feel.

Now, please fully close your eyes and permit a transitory pause.

Did you notice a sense of relaxation? A pleasant shift of focus? Did you smile? Was joy present?

.

Acknowledgements

While a thesis is not my ideal form of play, it must be recognized that some fun and laughter has been had throughout this odyssey.

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Table of Contents

Chapter 1: Introduction.....	1
Statement of the Problem.....	1
Purpose.....	5
Literature Review.....	6
Play and Humor, and Playfulness.....	6
Relationship Satisfaction.....	19
Depression.....	21
Hypotheses.....	24
Chapter 2: Method.....	26
Participants.....	26
Measures and Study Variables.....	27
Procedures.....	30
Chapter 3: Results.....	32
Overview of Data Analysis.....	32
Test of Hypotheses.....	33
Chapter 4: Discussion.....	36
Playfulness in Couple Relationship and its Association with Symptoms of Depression.....	36
Study Limitations.....	40
Implications for Future Research.....	43
Implications for Clinical Practice and Training.....	44
Appendix A.....	47
Appendix B.....	48
Appendix C.....	50
Appendix D.....	52
References.....	53

List of Tables

Table 1: Descriptive Statistics for Independent Variables

Table 2: Descriptive Statistics for Dependent Variable

Table 3: Correlations Among Study Variables ($N = 294$)

Table 4: Hierarchical Multiple Regression for Relationship Satisfaction, Playfulness and Depression

Table 5: Hierarchical Multiple Regression for Playfulness and Gender, Testing Gender as a Moderator between Playfulness and Depression

CHAPTER 1: INTRODUCTION

Statement of the Problem

Research on play and the presence of playfulness suggests that its potential benefits to psychological and physical health are multiple (Aune & Wong, 2002; Diener & Chan, 2011; Gibson & Tantam, 2017; Guitard, Ferland, & Dutil, 2005). Although most of the research on the importance of playfulness has been devoted to its positive impact on children's development (Barnett, 1991; S. Brown & Vaughan, 2009; Deterding, 2017; Gordon, 2014), studies have also suggested that playfulness has an impact on adulthood as well, though empirical evidence in adults remains sparse and unfocused.

One of the key issues in studying playfulness in the adult population is determining how to capture its essence and define it in a consistent and measurable mode. Just what is play? Is it a behavior, a disposition, and if you play, is that the same as playfulness? What we know about adults who are playful is quite limited and confused in the literature by definition, theoretical framework and standardized measures (Van Vleet & Feeney, 2015). The study of play or playfulness in adults and specifically in couple relationships requires a uniform definition that can be agreed upon and used in multiple forms of research. Previous research literature points out that though they share characteristics and their root is similar, 'to play' is not the same as to 'be playful'. To play is defined as a behavior or an activity (that an individual may engage in only in particular situations), whereas to be playful is defined as a disposition (Barnett, 1991; Brown & Vaughan, 2009; Casado-Kehoe, Vanderbleek, & Thanasiu, 2007; Diener & Chan, 2011; Glynn & Webster, 1992; Gordon, 2014).

Being playful has been shown to have an impact on one's perception of stressors in life and the available ways to cope with them (Brown, 2014; Gordon, 2014; Gray, 2011). Those who are playful are known to be more emotionally expressive (Barnett, 1991; Magnuson & Barnett, 2013). How to define and further how to measure playfulness has created a gap in the literature regarding this concept in the adult population (Glynn & Webster, 1992; Kanhadilok & Watts, 2014; Lauer & Lauer, 2003; Stuart Brown, 2008). Barnett (1991) has attempted to create a playfulness scale, and more recent work by Shen, Chick, and Zinn (2014) has attempted to move in a new direction to define adult play and playfulness by moving away from a behavioral traits based approach. Scientists believe that neoteny, the distinctly human characteristic of retaining juvenile features into adulthood, is responsible for great capacities and exponential growth in culture, science, invention and society itself, and they attribute the propensity to play as a key ingredient of society's continual advancements (Gilead, 2015).

Play has been demonstrated to cultivate skills necessary to thrive as a human being as well as a society (Van Vleet & Feeney, 2015, 2015; Whitebread, Basilio, Kvalja, & Verma, 2012; Youell, 2008). Noting a child's inhibition in play is viewed as an important developmental diagnostic factor (Stuart Brown, 2008). We know far more about play through experimental methodology and the observation and close study of small mammals and children. Disciplines from evolutionary biology, zoology, psychology to neuroscience are interested in the constructs of play and the potential benefits to survival and adaptation (Wong, 2010). Neuroscientists view play as integral to organizing complex emergent systems in the brain such as development of the social brain, emotion regulation, pattern recognition and attentional abilities (Panksepp, 2008).

Another challenge in the study of adult play and playfulness is the persistent conceptualization in U.S. culture that play is only for children. However, beginning at a young

age, play is socialized, through schooling, to be seen as a reward (Youell, 2008). Play, effortless and typically abundantly allowed in the space of early childhood prior to attending school, takes on new meaning as one grows up. In fact, research on laughter has found that children laugh on average 400 times per day, whereas adults laugh only about 15 times per day (Eckstein, Junkins, & McBrien, 2003). In modern society, adults are expected to be responsible, serious, and play only after their work is done (Deterding, 2017). Deterding (2017) suggests that adults need an alibi to play, and that when we see adults at play in the street, a child or a dog is typically involved. In the current climate of hyper scheduled living for adults and children alike, marked by busyness and an increased focus on measurable outcomes in work and in education, time for play may seem to be a luxury or somehow shameful, wasteful or not contributing toward achieving desired goals. Couples with children may place their own playfulness behind other family priorities and not understand the potential benefit of playfulness to the couple relationship and beyond to the family system (Casado-Kehoe et al., 2007). Brown (2014) astutely labels the gift of parenthood as a second chance to be playful and further sees grandparenthood as a third chance at such essential playfulness.

What if it were true that in order to succeed at compelling and serious adult goals, encouraging a sense of playfulness allowed for more sustained productivity, invited more joy, and overpowered feelings of isolation? Might this sense of playfulness be associated with important outcomes such as the experience of less depression and greater relationship satisfaction? Studies have been conducted on the benefits of play in childhood and on what the lack of play may mean for childhood development and later consequences in adulthood (Brown, 2014), but what playfulness confer in adulthood continues to be neglected in the empirical literature (Power, 2011; Van Vleet & Feeney, 2015).

Depression is an important public health issue affecting society. According to the World Health Organization, the leading cause of disability worldwide is major depression (Curtin, Warner, & Hedegaard, 2016). A couple's relationship satisfaction has been shown to be associated with health and well-being (Proyer, 2014). In a meta-analysis review, Whisman (2001) has documented an inverse relationship between marital satisfaction and depression. In addition to the possible negative association between relationship on symptoms of depression, play in the context of couple relationship could potentially function as a protective factor.

Throughout the oral and written history of humankind, the testimony of our embrace of play is bountiful in our communication patterns and colloquialisms. Simple and profound truths can be seen in these axioms, as play is a central and foundational part of our humanity. They demonstrate that play does not cease to be important as one ages; rather, humans cease to acknowledge and embrace its importance. Physicist Albert Einstein is credited with having said 'play is the highest form of research ' while Irish playwright George Bernard Shaw said, "We don't stop playing because we grow old; we grow old because we stop playing." (Fran, 2012).

In summary, there is theoretical support and empirical evidence that point to the importance of play and playfulness in the human adult. This capacity to play throughout the lifespan enhances many experiences and expressions of humanity and is in need of further study. It stands to reason that one of the enhancements that play may provide, with its capacity to shift perspective, reduce stress, and encourage connection, could be discernable in the experience of relationship satisfaction. The present research project investigated the presence of couple playfulness in adult long-term relationships and if it may be associated with the experience of depression and relationship satisfaction.

Purpose

The purpose of the present study was to investigate the associations that relationship satisfaction and playfulness may have with levels of depressive symptoms. Previous research has called for the need to further investigate the role that possible moderators may have on the association between relationship satisfaction and depression (Whisman, 2001). Additionally, playfulness in the context of couple relationship may function as an additional protective factor against symptoms of depression. Given that previous research has already found differences in regard to gender on levels of depressive symptoms, with women having significant higher levels of depression (Whisman, 2001), the present study also investigated if gender would have an association between playfulness and symptoms of depression. The data for the present study are a secondary set of data, collected from 2000 to 2015 from assessment information completed by all couples seeking therapy at the Center for Healthy Families (CHF). The CHF is a couple and family therapy clinic operating at the University of Maryland, College Park.

This research has potential to contribute to the field of marriage and family therapy in multiple ways. First, while play has been well researched and established as essential behavior in the development of human beings in many realms, it has predominantly been studied in children (Barnett, 2007; S. Brown & Vaughan, 2009; Deterding, 2017; Gordon, 2009). The role that playfulness has in adulthood has not been as fully studied, and further, the role that playfulness may have on the couple relationship has not been addressed in a comprehensive way. Second, this work may have implications for the individual as well as for the couple, as playfulness may function as a protective factor against depression, in addition to relationship satisfaction and depression. There exists the possibility of designing interventions that may aid in the rediscovery

of playfulness in the adult individual as well as in the couple relationship, which can have broad positive effects on the individual, the couple and the family system.

Considering that the experience of depression has been listed as the leading cause of mental health impairment (National Institute of Mental Health, 2017), this research is vital for its potential impact on the experience of this mental health disorder. While there is much study done on children and play, little attention has been paid to the value of play and playfulness in the adult or in the couple relationship and measures of relationship satisfaction, and there is strong reason to focus attention on this population, given its potential health benefits (Diener & Chan, 2011). In an interview, Dr. Stuart Brown asserts that research supports the contribution that play has the potential to make to well-being into adulthood (Kadlec, 2009).

Literature Review

Play and Humor

Research with Children and Animals

The beginnings of play behaviors are believed to take root through the parent-infant bonding process (Gordon, 2014). Throughout the world and its cultures, this bond or attachment is how play begins. Further, brain imaging research shows attunement between mother/caregiver and baby in the right brain hemisphere (Brown, 2014). Brain imaging and research also show the right brain to be dominant in infants. This brain region is known to be used in touch, facial expression, and change in tone of voice, rhythmic movements and music (Gordon, 2014). This type of attuned play is essential in establishing an infant's attachment to their caregiver. Through the simplicity of cooing, eye contact and babbling, a bond is begun and strengthened through this instinctual play. Two branches of play that are well researched are attuned play and exploratory

play. Attuned play is recognized as essential, its presence in the infant/caregiver bond has been directly connected to attachment and is seen as conditional for exploratory play which is associated with the ability to develop autonomy (Gordon, 2014). Gordon (2014) lists the attributes attuned play produces as contentment, a sense of love, enjoyment, interest, and curiosity, and he sees attachment as having a relationship to exploratory play throughout adulthood (Gordon, 2014).

In research conducted with animals, vocal, gesture, facial expression, as well as the entire physical body have been identified as being involved in the signaling system of play. Through his work studying primates, Brown and Vaughn (2009) say that a sense of safety is developed through the sharing of play signals and that these play signals are the foundation of how human trust is established. In other contemplative work on the biological implications of play, Brown (2008) explores the cosmological origins and systems of play and suggests an ‘evolutionary emergence’ (p. 300) in daily and familiar behaviors such as sleep and play, believing that they contribute toward stabilizing complex human systems in a fundamental way. A child’s ability to self-regulate their cognitive and emotional processes is established through play and is a potent predictor of emotional well-being and academic achievement (Whitebread et al., 2012). The presence of play is considered to signal that safety is present (Gordon, 2014). In addition, previous research has suggested that we develop and understand our sense of agency through playful experimentation and that this agency grows through trying and failing at complex tasks (Forbes, 2015). As an example of the insatiable curiosity of children, Forbes (2015) cites the million-dollar home childproofing industry.

Further, research has suggested a link between play and creativity as well as the seeming link between lack of play and potential violence. Research, conducted in the 1960’s in a Texas

prison by Brown (2014) focused on childhood experiences of those who committed murder but were not lifelong criminals. It was concluded that a *lack* of developmentally normal play was one thing all had in common and that 90% of the murderers had gravely deviant play histories where childhood play was deficient, absent or bizarre (Brown, 2014). Other research highlights children's capacity to play and suggests that there can be significant discrepancies with deficiencies attributable to early childhood abuse and neglect (Youell, 2008). Brown (2008) says the importance of play allows one to develop the ability to regulate emotion, establish empathy and to live with trust with one's companions, and that lack of this critical development through play has serious consequences.

Research on the responses of animals and humans deprived of play has shown them to be fixed and rigid. Brown (2014) refers to a type of play called rough and tumble play, which he sees as the borderland between our internal landscape and the exterior reality. While this type of play may alarm adults who will try to stop it due to its appearance as violent or chaotic, he believes that the roots of our ability to respond with empathy grow from these experiences because of how they provide a first-hand knowledge of just what such physical experience feels like. We learn about others through experience of self. The capacity to develop playfulness is learned through social play (Youell, 2008). Forbes (2015) also sees play aiding in the pursuit of mastery, deemed an internal standard over achievement focused attainment recognized as an external standard.

Other authors suggest that play is not motivated by external goals, and they differentiate between internal and external goals to explain the finding that those who are playful are not goal oriented. This pursuit of mastery in an internal fashion is the goal sought over the external goal that can alienate the player (Shen et al., 2014). Brown and Vaughan (2009) suggest that

spontaneous play prepares an individual to cope, test alternatives and to learn social skills as well as increases the ability to cope with stress. Gray (2011) says that adolescents are moving toward an external locus of control and away from an intrinsic awareness, and that their decline in play may be related to this change. He further states that social play is nature's means of teaching young humans that they are not special and that this aids in learning to see others as equal and to cooperate. Furthermore, he suggests that there is reason to believe there is a causal link between the decline of free play, which is play not structured by adults, and its contribution to the rise in psychopathology of adolescents, since from 1950 to 2005 the suicide rate for U.S. children under age 15 quadrupled, and among those ages between 15 – 24 years old it more than doubled (Gray, 2011). Gray suggests that the type of parenting currently referred to as 'helicopter parenting', which is excessive parental hovering and involvement and includes a system of praise that is often unearned, prevents children, through the experience of free play, from learning about themselves and how to solve their own problems and hampers their ability to be spontaneous. He sees free play as providing the opportunity for children to gain these skills and that parental hovering interferes with children's ability to develop these skills. The United Nations (UN) and the European Union (EU) collaborated to develop policies concerned with children's right to play, seeking to counteract the environmental stressors of contemporary life as well as the risk-averse trend developing in society (Whitebread et al., 2012).

Neoteny

One way to look at play is through the long scope of neoteny, which is defined as the desired retention of immature qualities into adulthood (Brown & Vaughan, 2009; Gilead, 2015; Gordon, 2014). In human evolution, neoteny is believed to be a definitive factor (Gilead, 2015). It is a

term that evolutionary biologists see as the slowing of development that expands the traits of childhood throughout adulthood (Gordon, 2014). Brown (2014) says that humans are the most “plastic” of all creatures and that this gives us an advantage in terms of adaptability. The use of the term “plastic” refers to the more recent discovery of neurogenesis in brain science. This capacity for continued brain cell development was previously believed to be compromised past the early adulthood stages of development (Doidge, 2007). The concept of a prolonged development and its juvenile features allows for the growth of more complex cognitive and behavioral features, with play being seen as one of these juvenile features powering this evolution and expansion of capacity (Gilead, 2015; Power, 2011). Neoteny ties directly into our ability to play into adulthood, and it is important to our survival and the ability to exhibit exploratory behaviors, since it can negate the rigidity that is prone after successful adaption (Brown & Vaughan, 2009).

According to Forbes (2015), our childhood curiosity and playfulness is linked to our drive for mastery and a just for the heck of it attitude, and neoteny allows this capacity throughout our lives. Our continually learning human brain is afforded long-term flexibility, which allows for this life-long learning with exceptionally creative brains regularly associated with playful and ever curious personalities (Gilead, 2015). It has also been suggested that the brain learns as we play and that our curiosity is a fundamental component to building brains (Gilead, 2015; Gordon, 2014).

In terms of knowing what play does for the brain, it has been observed that there has not been enough research but that this might be changing due to the developments in neuroscience associated with play (Brown, 2008). In fact, previous research associates the neurobiology of

playfulness as an important gift of nature and an integral process tool in the construction of our social brains (Panksepp, 2008).

According to previous neuroscience research, the cerebellum, a brain structure that is uniquely human, has vast computational power and uses the force of sequence detection to inform its predictive functionality (Vandervert, 2017). This same research has shown that the size of the cerebellum has increased four-fold over the course of human development.

Vandervert (2017) sees the adaptive value of play as a chaining of behavioral, emotional, cognitive and social components, and that with the expanding capacity of the cerebellum and through the unlimited error correction, practice and experience afforded in play an optimization process occurs. The encoding (learning) through serial events allows for this anticipatory or predictive function. Play behavior is repetitive, deliberate practice where pattern is established.

Through play and sequential learning, the potential to solve problems increases. Additionally, the fun factor of play is a powerful reinforcing motive for continuation. A simple game of rock-paper-scissors is illustrative of the brain's capacity to attend to movements, patterns and affect.

At first glance, it appears to be a simplistic game of chance with three arbitrary choices.

However, after further consideration, one can see that it shows that a predictive leap is taking place through mind and bodies being attuned and pattern discernment with successive experience of game play (Lester & Russell, 2014). Hide-n-seek, another familiar and on the surface simple childhood game, attests to the development of emotion tolerance seen in the mixed emotion state of panic and thrill. With this delightful game, a child learns to tolerate a dual state of emotional arousal (Power, 2011).

Adult Playfulness

Researchers have attempted to define adult playfulness in several studies in order to more clearly identify its essence. Glynn and Webster (1992) created a theory-based measure of adults' playfulness called The Adult Playfulness Scale (APS) and found that playfulness relates to a set of psychological traits including creativity and cognitive spontaneity. The authors focused on playfulness as an individual characteristic and sought to understand how this characteristic related in an organizational structure, such as the workplace. Shen et al. (2014) developed the APTS (adult play trait scale) and in doing so they tried to establish the exclusion of behavior components from the concept of traits. They used a view of a latent disposition rather than a summary view of traits, citing the latter as circular reasoning; trying to explain a behavior using behavior traits. Other research attempted to categorize the types of play, identifying six categories, such as: social, cultural, physical and love play, as well as humor and games (Lauer & Lauer, 2003). In her interview with Dr. Stuart Brown, Kadlec (2009) reports that Brown, working with the concept of play, categorizes play into eight areas: body play, which he describes as the spontaneous desire to get ourselves out of gravity, object play, which is playing with the hands and relates to problem solving abilities, curiosity and exploration, social play which has root in belonging, rough and tumble play, which is a learning medium that helps develop emotion regulation, collective play, spectator play, ritual play and imaginative play which relates to storytelling and narrative. Power (2011) has taken another approach and has defined playfulness in a flow of eight characteristics with corresponding dispositions, behaviors and affects that might accompany each characteristic (see Appendix E).

Play is generally characterized by a curiosity and a sense of timelessness and of purposelessness and is seen as non-goal directed (Aune & Wong, 2002; S. Brown & Vaughan,

2009). Play is focused on process not on production (Power, 2011). Carse (1986) stated that, ‘the joyfulness of infinite play, it’s laughter, lies in learning to start something we cannot finish’ (Carse, 1986, p.94). Playfulness is socially contagious, and it has a direct connection to imagination, allowing the integration of imagination into practice and the synthesis of learning into culture and society (Panksepp, 2008; Vandervert, 2017). Through the vantage point of neoteny, we see the manifold beauty of play and playfulness and its potential to unleash creativity, imagination, and innovation as well as imbue health and well-being throughout the life span.

The ability to reframe a situation to include elements of humor, amusement and/or entertainment has been used to define playfulness (Barnett, 2007; Campbell & Moroz, 2014; Casado-Kehoe et al., 2007; Eckstein et al., 2003; Hall, 2017; Kurtz & Algoe, 2015; McBrien, 1993). Powers (2011) views playful adult individuals as autotelic, or having purpose within, and can be seen as possessing a multistability or heterostasis as opposed to a singular stability or homeostasis (Power, 2011). Other research finds that playful people are mentally agile (Barnett, 2007; Glynn & Webster, 1992; Gordon & Esbjörn-Hargens, 2007; Guitard et al., 2005). The use of more positive focused coping strategies, (e.g., less self-blame) and having more resilience has been attributed to playful individuals, as well as their more positive perception of stressful situations (Magnuson & Barnett, 2013). Playful people have also been found to be unconstrained by others’ prescribed rules (Barnett, 1991), to possess higher intrinsic motivation (Barnett, 2012), self-esteem and levels of autonomy (Van Vleet & Feeney, 2015). Playful people have also been found to be more inclined to embrace challenge, better able to deal with failure, more open minded, and positive and to not take themselves too seriously (Guitard et al., 2005).

Powers (2011) defines adult playfulness between the telic (serious) and the paratelic (playful), saying that it is a pendulum between the motivation of achievement and orientation toward results and the enjoyment of the moment process. He also sees this as a gateway to bisociative thinking in liminal spaces. His use of the term bisociative stands in contrast to the concept of association. He sees bisociation as the ability to work or play on multiple planes where association remains on a single plane. Further, he sees this happening on the margins or threshold of experience. In another view that follows a similar notion of dual association or utilization, Stevens (2014) refers to interhemispheric combinatory play. Stevens identifies this as both hemispheres of the brain working together to allow a way of processing information that includes not thinking and sees play as an incubation for this ability of the brain (Stevens, 2014). Adults who are considered to have a playful disposition or that are highly playful have also been found to deemphasize need (Miller, 1973), are thought to be internally motivated, have a tendency to make their own meaning, and have a bearing toward process over outcome (Barnett, 1991). Other research on playful adults shows that they live on average ten plus years longer than those who are less playful (Gordon, 2014).

Playfulness might be understood as a middle place with a dualism, an unpredictability and a tolerance for uncertainty as play has been defined as training for the unexpected. Research shows this is ideal for learning to expect the unexpected, to tolerate paradox and dissonance (Power, 2011). While in some conceptualizations, playfulness is seen as a characteristic of personality that is relatively stable across time, it can also be understood on a continuum of playfulness from high to low (Glynn & Webster, 1992). Removing the dichotomy of playful or not playful opens the possibility of enhancing one's ability to be playful.

Defining adult play proves even more challenging as what constitutes play in an adult is often more varied. Brown says that play cultivates a sense of timelessness and purposelessness and even a state of ‘flow’ which can be understood as a full immersion and an energized focus on the object of attention (Brown, 2014). In research done by Csikszentmihalyi (2014), play has been identified in term of a new personality construct he calls work orientation. In addition to play, this new personality construct is also comprised of achievement, endurance, cognitive structure, order and low impulsivity. Play is also a communication behavior (Aune & Wong, 2002) and may have a role in moderating conflict. The current state of research on playfulness is fertile and ready for continued investigation (Van Vleet & Feeney, 2015).

Importance of Humor and Laughter to Playfulness and Relationship Satisfaction

An area of playfulness that has received attention in the literature is the construct of laughter, which may be seen as a proxy for humor (Kurtz & Algoe, 2015), with play being seen as the behavior most likely to spawn laughter (Van Vleet & Feeney, 2015). Having a sense of humor and a healthy self-esteem have been shown to influence playfulness (Aune & Wong, 2002). Researchers point out that humor and medicine have a long history dating back to early civilization. The ancient Greek physicians were recorded as prescribing a visit to the hall of comedians to their patients, understanding the accompanying power of humor in the recovery of the body, mood and mind (Savage, Lujan, Thipparthi, & DiCarlo, 2017). Other research has looked at the humor orientations of a person, the relationship between humor style and attachment style, the use of laughter as a meta-communication in personal and social settings and the psychological as well as the physiological benefits of laughter (Campbell & Moroz, 2014; Eckstein et al., 2003; Hahn & Campbell, 2016; Hall, 2017; Kurtz & Algoe, 2015; Saroglou, Lacour, & Demeure, 2010; Scott, Hyer, & McKenzie, 2015).

Research has also found a connection between couple cohesiveness and humor, due to the idea that the couple has a secret language of inside jokes and private meanings understood only by them. This place of exclusiveness adds to the couple's sense of cohesion and belonging (Ziv, 2009) and has been evaluated as a meta-communication, with research showing that laughter has identifiable patterns and even at a basic level, our ability to decipher tone in laughter communicates intent (Eckstein et al., 2003). Also included in humor and laughter research is the presence of an encryption system in order to decode the joke (Provine, 2012). The 'aha!' moment of inclusion, when humor is decoded (one 'gets' the joke), releases the beneficial neurotransmitters dopamine and serotonin in the brain (Savage et al., 2017). This encryption and decoding faculty is mirrored in the capacity of the cerebellum with respect to neoteny and play. Laughter is known to be a behaviorally contagious phenomena and is believed to work through the mirror neuron system, similar to collective yawns (Kurtz & Algoe, 2015). Humor as present in an interactional context, requires the presence of safety. This safety is indicative of a person's attachment style through the concept that secure attachment allows one to take a risk with humor and to feel confident in their connection (Saroglou et al., 2010).

Shared laughter is associated with social bonding and relationship satisfaction (Coates, 2007; Kurtz & Algoe, 2015). Coates (2007) says that humor is the gap between what is said and what is meant and sees the speaker as issuing an invitation to the group to collaborate in the playful talk (Coates, 2007). Previous study on couples demonstrates that shared humor is a form of pre-emptive repair, occurring in the first 3 minutes of conflict that addresses the affective state and attempts to establish emotional connection (Gottman, Driver, & Tabares, 2015). Relational humor, similar to shared laughter, is co-created and enjoyed by both partners and shows

association with relationship satisfaction as opposed to an individual's sense of humor which shows strong benefit to the speaker rather than the relationship (Hall, 2017).

Humor is a socially desired trait that many seek out in a romantic partner. Positive humor styles have been shown to have the most enhancing effects on relationship. (Caird & Martin, 2014; Campbell & Moroz, 2014; Cann & Matson, 2014; Eckstein et al., 2003; Gibson & Tantam, 2017, 2017; Hahn & Campbell, 2016; Kurtz & Algoe, 2015, 2015; Savage et al., 2017; Scott et al., 2015, 2015; Ziv, 2009). Play theorists regard humor to be a form of play, with meaningful connections to social bonding and group status and a capacity for belonging, attunement and empathy (Gibson & Tantam, 2017). Research demonstrates that there are social implications to differences in humor styles (Cann & Matson, 2014) with maladaptive humor styles, or a bad sense of humor, being seen as socially undesirable. Positive humor styles are associated with positive emotions, optimism, emotional intelligence, high self-esteem and intimacy. Negative humor styles are associated with burnout, loneliness, neuroticism, psychological distress and hostility (Vernon et al., 2009). Positive humor styles display more prosocial behaviors than negative humor styles (Hahn & Campbell, 2016). Humor that is relationship oriented, which is a positive humor style, as opposed to a negative or aggressive style of humor, increases the association with relationship satisfaction (Hall, 2017).

The role gender may play in the use of humor and humor style has been investigated in the literature (Cann & Matson, 2014; Hall, 2017; Saroglou et al., 2010). Research on 292 couples, 98 married and 48 divorced, found men's use of positive humor styles related to increased relationship satisfaction, it also showed that while women may use a negative humor style (self-defeating humor) it did predict marital satisfaction, and also divorce. (Saroglou et al., 2010). Additionally, this same research found that men rate themselves as significantly more

humorous than their wives and that the wives perceived their husbands to also be higher in positive humor styles than they were.

Gibson & Tantam (2017) propose that humor is inherently ambiguous, promotes the acceptance of errors, can influence the emotional state of others and can ease the integration of difficult life realities. Shared laughter has been viewed as a therapeutic tool of positive change integral to establishing common ground in the therapeutic alliance, increasing rapport, and amplifying the effects of evidenced based techniques in the treatment of mental health disorders, such as depression (Scott et al., 2015).

Similar to the term play, the prudent knowledge of humor and laughter has also been passed along and carried with care. Laughter is thought to be good for the soul, the root of happiness, a cure for what ails. This elementary insight is embedded within our humanity. “Laughter is the best medicine” is a proverbial phrase that many are familiar with and likely accept as a general truth. Identifying its source may extend back to the earliest century (LightHouse, 2016).

Research has proven the therapeutic benefits of laughter for improving mood and positive psychological and biological responses (Diener & Chan, 2011; Savage et al., 2017; Scott et al., 2015). Laughing can bring about a sense of euphoria by enabling the release of a compound in the brain, beta endorphins, that is similar to morphine. Other research has shown that laughter reduces the stress hormones epinephrine and cortisol while increasing antibodies and endorphins (Savage et al., 2017).

Humor requires intellectual flexibility and insists on a duality and a liminal experience. While the threshold of humor may border appropriateness (Gibson & Tantam, 2017), interwoven in these findings on humor and laughter are notions of play and playfulness and their route in

brain biology and development: sequence, encoding and pattern differentiation, and an understanding of integration and bisociative thinking. Further exploration of playfulness in the context of couple relationship and its association to one's symptoms of repression is warranted, considering the literature on the importance of play, humor, and laughter for an individual's wellbeing, as well as the argument that these factors should occur in a context of a safe relationship,.

Relationship Satisfaction, Humor and Playfulness

Playfulness in couple relationships correlates positively with couple closeness and couple satisfaction (Aune & Wong, 2002; Proyer, 2014). According to rankings by long-term couples, play and humor are a stronger determinant than sex in marital satisfaction (Lauer & Lauer, 2003). In addition, the use of affiliative humor, which is an adaptive humor style, is associated positively with relationship satisfaction and relationship persistence (Caird & Martin, 2014). Research identifies four benefits that humor provides to marriage: tension reduction, cohesiveness, self-disclosure and original thinking (Ziv, 2009). The different types of humor have been associated with the quality of conflict resolution (Campbell & Moroz, 2014). These researchers see the role humor can play as defusing tension, a medium for letting go of conflict at hand, a safe way to approach a delicate topic that may be threatening to both and a way to soften the blows of mild criticism. Couple relationship satisfaction in part rests on the ability to resolve conflict, and humor is an important factor toward this end (Hahn & Campbell, 2016). Relationship satisfaction is continually subject to threats stemming from relational difficulties, stress and life challenges. The ability to engage in collaborative coping in a dyadic fashion aids in the maintenance of successful relationships (Gana, Saada, Broc, Koleck, & Untas, 2017). Longitudinal studies show that relationship quality affects life satisfaction and well-being in a

reciprocal and dyadic fashion (Gustavson, Røysamb, Borren, Torvik, & Karevold, 2016). This research further suggests that interventions aimed at improving relationship quality may have a positive impact on well-being and a couple's level of life satisfaction. The frequency of play with a spouse is associated with better communication and conflict resolution skills that may take place during conflict (Vanderbleek, Robinson, Casado-Kehoe, & Young, 2011), higher resiliency to relationship stressors (Van Vleet & Feeney, 2015), a potential to create an 'upward spiral' through the generation of positive emotions (Proyer, 2014) and a pathway to a lower defensive stance in managing distress (Savage et al., 2017). In other research the relational stability and satisfaction provided by play in the couple relationship has demonstrated its impact on allowing for the challenging work of conflict resolution for the couple (Baxter, 1992).

Relationship satisfaction is an essential clinical and couple construct. Its implications reach beyond the couple dynamic and into family life when children are a part of the couple relationship (Graham, Liu, & Jeziorski, 2006). These researchers emphasize the connection of distress in a romantic relationship and the increased risk for a variety of health problems, anxiety and depression. They further point to the importance of dyadic relationship quality and its impact on self-esteem in children, saying that children of parents with a high relationship satisfaction have a higher self-esteem and go on to form high-quality romantic relationships themselves. Relationship satisfaction has been measured in a variety of ways including the Locke-Wallace Marital Adjustment Test, the Marital Satisfaction Inventory – Revised, the Marital Satisfaction Scale, the Kansas Marital Satisfaction Scale, and the Quality Marriage Index and the Dyadic Adjustment Scale by Spanier (Graham et al., 2006). The current study uses the DAS as its relationship satisfaction measure. Spanier (1976) viewed the determinants of dyadic satisfaction in his subscale as the measure of closeness and conflict.

Depression

Depression is a critical clinical challenge. The National Institutes of Mental Health (NIMH) reported that in 2015 6.7% (16.1 million) of all U.S. adults age 18 and over had one MDE (major depressive episode) in the previous year. Further, the World Health Organization (WHO) has found that in just a decade, from 2005-2015, there has been a more than 18% increase, now 300 million, of people living with depression (“WHO | Depression,” n.d.).

The WHO launched a one-year global campaign on depression in April of 2017, alerting that depression is the leading cause of disability and ill health worldwide, and has named it one of the ‘priority conditions’ that they address with their mhGAP program (mental health gap action program). According to the Center for Disease Control, rates of depression have increased from 1999 – 2014, when statistics are available, showing a disturbing 24% increase in that time span as well as positioning suicide as one of the ten leading causes of death overall in all age categories from age 10 – 64 (“FastStats,” 2017).

Research suggests that depression is caused by a combination of psychological, biological and environmental and genetic factors (National Institute of Mental Health, 2017). NIMH recognizes that the earlier treatment can begin, the more successful it is likely to be. Research has shown that chronic stress and depression are harmful physiologically (Diener & Chan, 2011), showing that the biological measures of blood pressure, cortisol levels and amount of inflammation as well as indicators of disease such as artery wall thickening are associated with moods and emotions.

Depression and Relationship Satisfaction. The association between depressive mood and relationship satisfaction has been shown to be affected by dyadic coping ability. A study on

198 heterosexual couples found that a depressive mood was not a causal factor in marital dissatisfaction but rather a consequence (Gana et al., 2017). This research points out that one of the risk factors identified for developing depression is relationship dissatisfaction. On a relational level, research has shown that when couples who are dissatisfied with their relationship stay in them, it increases marital distress and in turn impacts depression, anxiety, and can affect their parenting and their children (Vanderbleek et al., 2011). Kouros and Cummings (2011) in longitudinal research have made a distinction between the marital processes of marital satisfaction and marital conflict and have found that there is a gendered difference in their association with depression. In research done with 296 couples, they found that increases in depressive symptoms led to subsequent decreases in marital satisfaction for husbands while increases in marital conflict predicted increased symptoms of depression over time for wives (Kouros and Cummings, 2011). Other research has shown that there is likely a bi-directional influence between depression and relationship satisfaction (Whisman, 2001). Based on a meta-analytical review of 26 articles, Whisman (2001) found that depression is strongly associated with marital dissatisfaction, and that this association is significantly stronger for women, in comparison to men.

Playfulness, Relationship Satisfaction, and Depression. The association between relationship satisfaction and depressive symptoms is known, even though research is not clear about the direction of this association (Whisman, 2001). Another possible factor that could have a role in this context is the presence of positive sharing which has been found to mediate the association of relationship quality and depressive symptoms (Horn, Milek, Brauner, & Maercker, 2017). These researchers further point to an interpersonal view on the development of symptoms of depression and their impact to relationship quality seeing it as an interactive process. Another

possible factor that could have an association with relationship satisfaction and depressive symptoms is the presence of playfulness and humor in the couple relationship. Research supports the association of the frequency of couple play as a predictor of couple bonding, communication and conflict resolution (Vanderbleek, 2005; Vanderbleek et al., 2011). Research supports that play might strengthen cognitive flexibility, enhance the ability to shift perspective, expand problem solving abilities, increase tolerance, resilience and coping, and expand empathy through play and playfulness (Kadlec, 2009). From this perspective, the present study aims to investigate if playfulness has a unique effect on symptoms of depression, above and beyond the effects of relationship satisfaction.

Given the possible positive impact of playfulness in adulthood, its study has been suggested to not only have an important role in the context of couple relationship, but also in the context of therapy process. In this sense, Scott et al. (2015) pose humor in the therapeutic alliance as essential in finding hope and a silver lining in the negative thinking and situations that accompany a depressive episode. They call attention to the need for such intervention citing the rise in older adults seeking mental health support with depression as the older population of baby boomers enter their sixth decade (Scott et al., 2015). Similarly, the use of humor as a therapeutic tool has evidence in the literature (Mahmoudi, Farzane, & Jahromi, 2015). While playfulness and humor is not proposed as a treatment for such a serious mental health issue as depression, the potential connection between one's ability to be playful and their ability to develop coping mechanisms and problem-solving abilities and its connection to relationship satisfaction merits all manner of serious investigation. Hypotheses

The primary objective of the present study was first to investigate the link between relationship distress and depression then to examine the potential link between playfulness and depression

and finally to look at the potential moderating effect of gender on the association between playfulness and symptoms of depression. Previous research has found relationship satisfaction to be negatively associated with symptoms of depression (Gana et al., 2017, 2017; Gustavson et al., 2016; Proyer, 2014; Whisman, 2001). However, despite the positive benefits that play may have to the individual, the couple and the family, most of the research on play has been limited to its effects during childhood (Barnett, 2007; Stuart Brown, 2008; Casado-Kehoe et al., 2007; Deterding, 2017; Whitebread et al., 2012). Considering the seriousness of depression as a leading cause of disability worldwide (Curtin et al., 2016), further research is needed to specifically identify if playfulness in adulthood further explains variance in dyadic relationship satisfaction and levels of depressive symptoms.

Based on the current clinical, empirical and theoretical literature on relationship satisfaction, adult playfulness, neoteny, and humor, the following hypotheses were tested in this study.

Hypothesis 1: Higher levels of relationship satisfaction will be associated with lower levels of depressive symptoms.

Hypothesis 2: Higher levels of playfulness will be associated with lower levels of depressive symptoms.

Hypothesis 3: Playfulness in the context of couple relationship will have unique association with levels of depressive symptoms, above and beyond the effects of relationship satisfaction.

Hypothesis 4: Gender in the context of couple relationship will moderate the association between playfulness and depressive symptoms.

CHAPTER 2: METHOD

The current study was a secondary analysis of preexisting data obtained at the Center for Healthy Families (CHF). The CHF is a clinical training facility where therapy is delivered by masters level students enrolled in the Couple and Family Therapy program in the School of Public Health, Family Science Department at the University of Maryland. Students in this program are supervised by licensed, AAMFT approved supervisors. These data were obtained from standard assessment procedures during the years 2000-2015. Data were collected from all couples that sought therapy services at the CHF. Data from a total of $n = 294$ participants were analyzed in the present study.

Participants

This sample was drawn from couples voluntarily seeking therapy for relationship distress at the CHF. All of the participants in this sample were married, living together or in committed relationships. These cases were selected because they represent all cases where assessment data of the three selected measurements for this particular study have been encoded into a database and are available for research use. This sample consisted of 141 males and 153 females. The age range for males was between 20 and 63, with the mean age for males being 33 ($SD = 8.04$) and the age range for females was between 19 and 58 with the mean age for females 32 ($SD = 8.39$). The race composition of this sample for males was 45% White, 39% African American, 9% Other, and 4% Hispanic. For females, the race composition was 44% African American, 37% White, 8% Other, 7% Hispanic, and 4% Asian/Pacific Islander. The income and education of this sample was not evenly distributed between males and females. 34% of males reported earning \$30,000 or less while 51% of females reported income in this category. Similarly, 31% of males report an income over \$50,000 while only 23% of females report income in this range.

In contrast, 46% of females hold a Bachelor's degree or above, whereas only 36% of the males reported attaining the same education levels. Additionally, only 6% of females had only a high school diploma, while 21% of males did. In regard to living arrangements, 87% of this sample reported living together, either married or cohabitating.

Measures

Independent Variables: Relationship Satisfaction and Playfulness

Relationship Satisfaction: Relationship satisfaction was measured with the Dyadic Adjustment Scale (DAS), a 32-item measure using a Likert scale format to rate the frequency of occurrence. The DAS as an assessment tool has been demonstrated to be reliable and valid and to have an internal consistency as high as .96 (Spanier, 1976). This scale has four subscales, dyadic consensus, dyadic satisfaction, affectional expression, and dyadic cohesion. The total score provides a measure of relationship satisfaction, with a score below 100 reflective of distress. This study uses the DAS as its relationship satisfaction measure. While it's total scores have been used consistently as a measure of distressed and non-distressed couples (Spanier, 1976) it is important to note that the total DAS score was not intended to be a measure of relationship satisfaction and instead should be viewed as a measure of relationship quality and adjustment. The sub score dyadic satisfaction should be used for the measure of relationship satisfaction. Spanier viewed dyadic adjustment in two significant realms; first, interpersonally through the experience of tension and anxiety and second, as a dyad through the experience of cohesion, satisfaction, differences and the consensus of matters important to the functioning of the dyad. (Graham et al., 2006) For the purposes of this study, the dyadic satisfaction subscale was used. This subscale is comprised of ten questions, numbers 16, 17, 18, 19, 20, 21, 22, 23, 31, and 32. Participants were asked to indicate on a 6 or 7-likert scale (items #16 to 22 and item # 32 are a 6-

likert scale, whereas the remaining item # 32 is a 7-likert scale), the frequency in which they have engaged in certain activities with their partner (e.g. ‘*Do you confide in your partner?*’; ‘*How often do you and your partner quarrel?*’). Participants’ scores on each of these items were added to compose the final score for relationship satisfaction. This subscale for this study showed acceptable reliability ($\alpha = .83$).

Playfulness: The Positive Partner Behaviors (PPB) is a 54 item self-report scale referencing activities that have occurred *in the past week* between the participant and their partner. For the purposes of this study, a playfulness scale was created using nine items from the PPB that indicated playfulness (items number 9, 12, 13, 14, 15, 16, 19, 35 and 42): humor (laughter), time spent together on activities, relaxing, hobbies and physical pursuits within the couple relationship. Respondents were first asked to indicate if certain positive behaviors happened between them and their partner during the past week. If the positive behavior did happen, they were then asked to rate the level of pleasure obtained from those positive behaviors. For the latter, the PPB uses a 9-point Likert type response scale to indicate how pleasant a specific behavior is to the respondent, ranging from 1 (“*extremely unpleasant*”) to 9 (“*extremely pleasant*”). When participants indicated that the positive behavior happened, that item was coded as 1, while if it did not happen, it was coded as 0. Then, this score was multiplied by the number that the participant indicated in terms of satisfaction for each of those items, ranging from 1 to 9. A final score to compose the playfulness scale was computed by adding these products. This subscale for this study showed acceptable reliability ($\alpha = .78$).

Table 1. *Descriptive Statistics for Independent Variables*

	<i>n</i>	<i>Potential</i>	<i>Actual</i>	<i>Actual</i>		
		<i>Range</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>SD</i>
Relationship Satisfaction	294	0-24	1	49	29.2	7.6
Playfulness	294	0-81	0	81	44.2	15.6

Dependent Variable: Depression

Depression: Depression was measured using the Beck Depression Inventory (BDI). This is a 21-question self-report assessment that asks for symptoms of depression, as they occurred *in the past week*. Questions on the BDI are answered on a four-point Likert scale ranging from 0, indicating no experience of symptom in the past week to 3, indicating strongest level of symptom experienced in the past week. Twenty-one symptoms and attitudes are included on the BDI, such as: mood, pessimism, sense of failure, lack of satisfaction, guilt feelings, sense of punishment, self-dislike, self-accusation, suicidal wishes, crying, irritability, social withdrawal, indecisiveness, distortion of body image, work inhibition, sleep disturbance, fatigability, loss of appetite, weight loss, somatic preoccupation, and loss of libido. The BDI has been rigorously studied and has been found to have high internal consistency and validity with cutoff scores falling into four categories of ascending levels of depression with scores below 10 indicating no or minimal depression, 10-18 indicating mild to moderate depression, 19-29 indicating moderate to severe depression, 30-63 indicating severe depression (Beck, Steer, & Garbin, 1988). This scale for this study showed acceptable reliability ($\alpha = .85$).

Table 2. *Descriptive Statistics for Dependent Variable*

	<i>n</i>	<i>Potential</i>	<i>Actual</i>			
		<i>Range</i>	<i>Minimum</i>	<i>Actual Maximum</i>	<i>Mean</i>	<i>SD</i>
Depressive Symptoms	294	0-63	1	45	12.5	8

Control Variables: Age and Gender

Age: The measure and report of playfulness and the experience of depression may be influenced by age (e.g., Detering, 2017; Gray, 2011); therefore, we initially planned on including age as a control variable. However, preliminary analysis indicated that age did not have a significant association with the outcome variable, depression ($r = -.02, p = .80$). Therefore, it was not included in further analysis.

Gender: The measure and report of playfulness and the experience of depression may be influenced by gender. Previous research has found women to experience higher levels of depressive symptoms (e.g., Whisman, 2001), therefore, this study controlled for this variable on the initial model, while testing for the effects of relationship satisfaction and playfulness on depression.

Procedures

At the CHF, a standard therapy intake process is conducted, including a brief phone interview during which callers are asked to provide a limited description of their relationship concerns as well as demographic information about themselves and members of their household. Also screened for are legal or court involvement, hospitalizations, diagnosis of psychiatric conditions and use of psychiatric medications, as well as the current status of suicide, homicide or abuse from the caller. The initial appointment for every client at the CHF involves completing

a clinical assessment which includes a brief interview, multiple self-report questionnaires and a brief therapist assessment of substance abuse and fear of one's partner. During this assessment phase partners complete the questionnaires separately to maintain confidentiality. The assessment questionnaires and therapist interview focus on various aspects of the couple relationship, including: a history of alcohol or drug abuse, presence of psychological or physical abuse, conflict styles, level of social support, and levels of depression. For the purpose of this study, three standard self-report questionnaires, completed at the initial assessment session, were examined: PPB, BDI, and DAS. This study was approved by the IRB at the University of Maryland.

CHAPTER 3: RESULTS

Overview of Data Analysis

Prior to testing the hypotheses of this study, Pearson correlations were calculated among the study variables (see Table 3). Results revealed significant associations between the outcome variable, depression, and the other study variables, except for age. Age was initially thought to be a factor that could be associated with the dependent variable, and in need to be included as a control. Since the association between age and depression was found to be non-significant, age was not included in the final model for this study. There was a negative significant association between depression and relationship satisfaction ($r = -.17, p < .004$), suggesting that as relationship satisfaction increases, depression decreases. Likewise, there was a significant negative association between depression and playfulness ($r = -.18, p < .002$), indicating that as playfulness increases, level of depressive symptoms decreases. Finally, depression and gender (coded as female = 0 and male = 1) were found to have a significant relationship ($r = .19, p < .001$), indicating that females scored higher than males on depression.

Table 3. *Correlations Among Study Variables (N = 294)*

	1	2	3	4	5
1. Relationship Satisfaction	--				
2. Playfulness	.34**	--			
3. Depression	-.17**	-.18**	--		
4. Gender	-.15*	.02	.19**	--	
5. Age	-.11	-.1	-.02	-.05	--

Note: * $p < .05$. ** $p < .01$. *** $p < .001$ (two-tailed). For gender, female = 0 and male = 1.

To test the hypotheses that (1) higher levels of relationship satisfaction will be associated with lower levels of depressive symptoms, that (2) higher levels of playfulness will be associated with lower levels of depressive symptoms, and that (3) playfulness in the context of couple relationship will have unique association with levels of depressive symptoms, above and beyond the effects of relationship satisfaction a hierarchical linear regression analysis was conducted, through the following steps:

Step 1. Gender, as control variable, was entered first. Step 2. The independent variable relationship satisfaction was entered. Step 3. Playfulness was entered to determine if it had a unique association with depression, above and beyond the effects of relationship satisfaction.

Lastly, to test for gender as moderator of the association between playfulness and depression, an interaction term was created: playfulness x gender. For this analysis, another set of hierarchical multiple regression analysis was conducted, in four steps: (1) the independent variable playfulness was entered, (2) followed by gender, (3) then the interaction term playfulness x gender was entered as the final step.

Test of Hypotheses

Hypothesis 1, Hypothesis 2, and Hypothesis 3

Hypothesis 1 stated that *higher levels of relationship satisfaction would be associated with lower levels of depressive symptoms*. Hypothesis 2 stated that *higher levels of playfulness would be associated with lower levels of depressive symptoms*, and Hypothesis 3 stated that *playfulness in the context of couple relationship would have a unique effect on depressive symptoms, above and beyond the effects of relationship satisfaction*.

These hypotheses were tested through a hierarchical multiple regression analysis in which the dependent variable was depressive symptoms as measured by scores on the BDI. Table 4 presents the results of this analysis involving gender, relationship satisfaction, and playfulness, as associated with depression. When impact to depression was predicted it was found that gender ($\beta = .19, p < .001$), relationship satisfaction ($\beta = -.14, p < .01$), and playfulness ($\beta = -.15, p < .01$) were significant predictors. Playfulness accounted for an additional 1.3% of the variance in depression $F(3, 291) = 8.70, p < .01$. Based on this, it could be said that the findings support hypotheses 1, 2, and 3: Relationship satisfaction is associated with depressive symptoms, and playfulness in the context of couple relationship has a unique effect on depressive symptoms above and beyond the effect of relationship satisfaction, while controlling for gender.

Table 4 *Hierarchical Multiple Regression for Relationship Satisfaction, Playfulness and Depression*

Model	Variable	B	SE	β	<i>t</i>
1.	Gender	3.07	.91	.19	3.37***
2.	Gender, Relationship Satisfaction	-.147	.06	-.140	-2.44*
3.	Gender, Relationship Satisfaction, Relationship Satisfaction, Playfulness	-.075	.03	-.15	-2.44*

Note. Gender: females = 1. Males = 0. $F(1, 292) = 11.38, p < .001$.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Hypothesis 4

Hypothesis 4 stated that *gender in the context of couple relationship would moderate the association between playfulness and depressive symptoms*. This hypothesis was tested by first creating an interaction term by multiplying the overall score of playfulness and gender. Step 1 had the independent variables playfulness as predictor, step 2 added gender as a predictor, and step 3 added the interaction term of play and gender. There was a main effect of gender on depression ($F(3, 291) = 6.7, p < .001$), but gender did not moderate the association between playfulness and depression.

Table 5 *Hierarchical Multiple Regression for Playfulness and Gender, Testing Gender as a Moderator between Playfulness and Depression*

Model	Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>
1.	Gender	3.07	.91	.19	3.37***
2.	Gender, Playfulness	-.09	.03	-.18	-3.13**
3.	Gender, Playfulness, Gender X Playfulness	-.03	.058	-.08	-.46

Note. Gender: females = 1. Males = 0. $F(1, 292) = 11.38, p < .001$.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

Chapter 4: DISCUSSION

The purpose of the present study was to investigate the associations that relationship satisfaction and playfulness may have on levels of depressive symptoms. Given that previous research has called for the need to further investigate the role that possible moderators may have on the association between relationship satisfaction and depression (Whisman, 2001), playfulness in the context of couple relationship was investigated to determine the strength of its association to the experience of depressive symptoms. It was hypothesized that the presence of couple playfulness as well as the enjoyment of it would be associated with reduced levels of symptoms of depression. Additionally, given that research on depression points to a stronger association between depression and marital satisfaction for women than men (Whisman, 2001), research on the marital processes of satisfaction and conflict has gendered findings (Kouros and Cummings, 2011) and that humor researchers have investigated the role gender plays in the use of humor and humor styles (Cann & Matson, 2014; Hall, 2017; Saroglou et al., 2010) this study investigated if gender moderated the relationship between playfulness and depressive symptoms.

Playfulness in Couple Relationships and its Association with Symptoms of Depression

Hypothesis 1. Higher levels of relationship satisfaction would be associated with lower levels of depressive symptoms.

Depression has been noted as a critical clinical challenge and categorized as the leading cause of disability worldwide by the WHO. The present research found higher levels of relationship satisfaction to be associated with lower levels of depressive symptoms. This

corroborates with previous research that suggests that the ability for dyadic coping impacts relationship satisfaction and depressive mood (Gana et al., 2017).

Other research has shown that depressive symptoms are strongly associated with relationship *dissatisfaction* (Whisman, 2001). Based on a meta-analysis review, Whisman (2001) presents a number of studies suggesting that levels of depressive symptoms have an effect on relationship satisfaction, but the author also presented several studies that support the other direction of that relationship, in that relationship satisfaction would have a main effect on level of depressive symptoms. The present research supports the latter: The findings revealed that as relationship satisfaction increases, levels of depressive symptoms decrease. Based on what is discussed by Whisman (2001), although research is not clear in regard to longitudinal effects between these two variables, it is possible that lower levels of relationship satisfaction are associated with higher levels of depressive symptoms, especially among those who have not had major depressive episodes in the past. It is suggested that relationship dissatisfaction may be associated with the onset of a first major depressive episode (Whisman, 2001). Considering the other direction of this association, the author suggests that recurrent depressive episodes could have a detrimental effect on relationship satisfaction. Because in the present study we did not analyze the data in terms of depressive episodes, neither current nor historical, but rather in terms of participants' levels of depressive symptoms, the discussion of the present findings is limited to testing the main effect of relationship satisfaction on levels of depressive symptoms, to which we found supporting results.

Higher levels of playfulness would be associated with lower levels of depressive symptoms and Play in the context of couple relationship would have a unique effect on depressive symptoms, above and beyond the effects of relationship satisfaction.

Research has found an association of the frequency of couple play to be a predictor of couple bonding and conflict resolution skills(Vanderbleek, 2005). This study's finding that higher levels of playfulness in the couple context are associated with lower levels of depressive symptoms supports this finding. Individuals who had higher levels of play reported lower levels of depressive symptoms. It is important to highlight that, as predicted, playfulness was found to explain a unique proportion of the variance in depressive symptoms, above and beyond what is accounted for by gender and relationship satisfaction. These findings support the existing theoretical research that catalogues the importance play has to make throughout the life span and that can be particularly helpful in times of challenge. Previous research has found an association between relationship satisfaction and levels of depressive symptoms; and specifically that the type of humor that is "relational" to have an impact on lower levels of depressive symptoms (Hall, 2017).

Further, in the present study we see a unique association between levels of playfulness and depressive symptoms, above and beyond relationship satisfaction. Research has found that play is associated with more positive focused coping strategies, a more positive perception of stress, less self-blame, and more resilience (Magnuson & Barnett, 2013). These findings highlight important assets in working with depression. Play may present an opportunity to strengthen these skills and to reduce the symptoms of depression being experienced. Continued

exploration of these attributes credited to playfulness and their association with depressive symptoms will be beneficial.

Although the majority of research on play has been focused on its importance during childhood, in the literature, adult playfulness has been discussed in multiple frameworks. Adult playfulness has been framed and investigated as a theory looking at individual characteristics in the APS (adult play scale) (Glynn & Webster, 1992), as a trait in the APTS (adult play trait scale) (X. Shen, 2010), and as a characteristic with disposition, behavior and affect in a compilation aligned to represent different facets of playfulness (Power, 2011). Other researchers have attempted to categorize the types of play; some based in children's play research (Kadlec, 2009; Lauer & Lauer, 2003).

In conducting this research and study, a distinction in the defining of adult playfulness has emerged to this author. *To be playful*, if viewed as a trait with dispositional characteristics and a view of temperament as the basis of the construct, may be seen as individual and about the self. *To play*, on the other hand, with its behavioral component, may be seen as a state that is relational and about other. Play, like its companion humor, may be viewed as an invitation. It may be seen as a foundation of empathy and a behavior that encourages belonging and inclusion and also helps foster the coping ability of the other. Therefore, to play, or playfulness in the context of couple relationship, may be seen as an invitation to help the partner to cope, as a way to lessen distress and symptoms of depression and an attempt to step out of the dance a negative spiral can elicit. This invitation to collaborate is a sharing of the strength of play with another. This elaboration to the definition of play and playfulness, with being playful as a trait and about

the individual, while playfulness as a state and relational with an invitation to interact playfully, may guide future inquiry into these constructs.

It is important to note that what is being defined in this study as playfulness in the context of couple relationship was actually composed of items of one measure that has the purpose to capture participants' evaluations of positive behaviors in the context of couple relationship. These items together (e.g., *We participated in a physical activity or sport together, or We cooked or worked together on a project, hobby, etc.*), had a unique negative association with levels of depressive symptoms, above and beyond what was accounted for by gender and relationship satisfaction. Participants were asked to indicate if certain positive behaviors happened in the last week and their level of satisfaction with those events. Our findings, therefore, suggest that the positive experience of behaviors that are related to playfulness in the context of couple relationship is indeed associated with lower levels of depressive symptoms, above and beyond level of relationship satisfaction.

Gender will moderate the association between playfulness in the context of couple relationship and depressive symptoms.

Our findings corroborate previous research that has found gender to be associated with depressive symptoms (Whisman, 2001). Previous research has found gender to moderate the association between relationship dissatisfaction and symptoms of depression, with that relationship being particularly stronger for women.

It was hypothesized that due to the existing research on the varied experience of level of depression between genders, that gender would moderate the association between playfulness and depression symptoms. However, findings revealed that gender does not moderate this

association. This is still an important finding, in that we can say that playfulness in the context of couple relationship has a negative significant association with depressive symptoms, for both men and women.

Study Limitations

Several limitations need to be considered in this study. First, this study used a portion of a measure that was not designed to be a scale for adult playfulness. In this study, it was an attempt to measure behaviors that are often associated as playful in a pursuit to look at this sample through the lens of some behaviors that may be considered playful. The items selected from the PPB (positive partner behaviors) all appear to measure a type of playful behavior when read in a positive manner, as the title of the measure suggests, but, as it was used in this study, the title of the measure, “Positive Partner Behaviors” was not written on the document participants were asked to complete. Instead, a respondent saw only its initials, “PPB”. While the PPB asks about partner behaviors that seem positive, this does not guarantee that they are seen as positive, nor do the nine selected questions from the original 54-item scale necessarily represent playfulness. Although they may be seen as a proxy for play, it cannot be known from this measure if the respondents considered it to be play behavior. While some may think of a physical activity or sport done together as a form of play, others may view it as a chore to exercise and may not find it pleasurable. Similarly, cooking or working on a project together may fall into the realm of required daily tasks or home upkeep and may not be viewed as playful. Nonetheless, participants were not only asked to indicate if those behaviors have occurred in the last week, they were also asked to indicate the level of satisfaction with each those behaviors, in case they have happened.

Second, the study used only a portion of clients at the CHF and had to eliminate a significant portion due to assessments that were incomplete or never completed. This sample has the potential to represent 1,226 participants, but not all were given the PPB measure that was used to construe the playfulness scale. Should another way to measure play behavior be devised, possibly the entire coded sample may be analyzed.

Third, only one subscale from the DAS, dyadic satisfaction was used to measure relationship satisfaction. Possibly, using all factors or a different factor may produce differing findings.

Fourth, while the BDI is a standard measure of depression, the literature is unclear on symptoms of depression and their range of impact and the experience of major depressive disorder and its impact on relationship satisfaction. The literature points to a bi-directionality of the two and presents a challenge in this type of analyses (Whisman, 2001). Using the four BDI cutoff score categories may produce results that highlight unique findings.

Lastly, this study used measures that were given at the onset of therapy to couples who were interested in couple therapy. It is very possible that these couples were distressed at the time of completion of the assessments. It is also possible that through the delivery of therapy, the ability to recognize and prioritize the behaviors measured as ‘play behaviors’ on the PPB could impact the results of this study. If longitudinal data were collected, for example, during the therapy process, and at the completion of therapy, that could have led to different results.

Additionally, the measures used in this study have some limitations. The most important is that they are self-report measures, and no other objective information was gathered about the participants – either through therapists’ observations or from the partners’ impressions. In addition, all the measures have differing formats in temporal instruction, rating scale and focus

of subject. The PPB and BDI ask respondents to answer questions based on the past week, while the DAS does not have any such specification or reference to time. A possible limitation about the PPB, used as a one-time assessment, is that it specifically asks respondents to first note if a behavior ‘happened’ or ‘did not happen’ and then to rate that behavior, again, for the past week. If a respondent did not go to a movie, sporting event, party or on a trip in the past week, the evaluation about those particular behaviors could not be considered for the overall score on that scale.

Another limitation in regard to the construction of the model for analysis is that given the conflicting results in the literature in regard to the direction of the association between relationship satisfaction and levels of depressive symptoms, Whisman (2001) suggests the associations between relationship satisfaction and depressive symptoms could be bidirectional. The data for the present study were cross-sectional; therefore, no conclusion can be made in regard to causality. Further, we only tested for relationship satisfaction as a predictor of depressive symptoms, and we did not test for the opposite direction of this association. The decision was made based on the main purpose of this study, to investigate the role playfulness in the context of couple relationship could have on levels of depressive symptoms.

Implications for Future Research

Given the need for further empirical research on the bi-directionality of relationship satisfaction and the experience of depression, an implication for future research would be to design a more comprehensive play scale that could more closely measure the relationship playfulness may have on relationship satisfaction and with depressive symptoms. The potential to identify moderators within the experience of relationship satisfaction and experiences of

depression has great significance to the health of the relationship and to the health of the individual, as playful adults have been found to live on average 10+ years longer (Gray, 2011)

Second, given the proven benefits of play into adulthood, continuing to empirically study the connection adult couple play may have will advance therapeutic understanding and possibly give permission to the concept that play is good for you and your mood, as this study has found it to be. Replicating this initial finding, showing that play behaviors have a positive association with lower levels of depressive symptoms, would be important. Further, defining play in adulthood and what it looks like in a couple relationship are important next steps (Van Vleet & Feeney, 2015)

Implications for Clinical Practice and Training

Based on the findings of this study there are several implications for clinical practice and training. First, while this study did not provide empirical evidence of gender moderation of playfulness, it did find that playfulness in the context of couple relationship has a unique association with symptoms of depression, above and beyond the effects of relationship satisfaction. Additionally, theoretical and anecdotal evidence exists to warrant further study of this concept. While not understood fully, playfulness, play and humor have the potential to inform clinicians as they begin work with a client through the use of various assessment tools to aid in case conceptualization and treatment planning. Being informed of the value of play, the experience of play in the client's past, and the current presence of play may stand as a useful assessment tool and inform directions for therapy. Learning to take a play history (S. Brown, 2014), and to understand it as integral to a client's formation, as one might view a genogram, could assist the therapist in gaining a fuller appreciation of their client and their current

capabilities. Brown (2014) says that play is a transformative construct and its presence in human development aids the acquisition of important life skills. Parts of that history may include inquiring about a client's earliest memory of joy or a playful image such as a toy or an event etc. and to use this as a framework to build from the emotion this memory may elicit in order to create a play profile. In his career, Brown (2014) conducted over 8,000 such play profiles and found that people with play in their lives were more successful while those with a lack of play had negative long-term consequences, including measurable health factors.

Second, the use of humor in particular may impact the therapist's style and have a place in the development and maintenance of the therapeutic alliance. Shared laughter in particular has been seen in the research as a therapeutic tool used to establish common ground in the therapeutic alliance (Scott et al., 2015). Addressing this in a training program may help therapists in training to find a strength that they possess or to develop it, and assist them with its use with clients. Additionally, humor has been shown to influence the emotional state of others (Gibson & Tantam, 2017), interventions such as Humor Homework and the Humor Happy Hour (Junkins, 2002) are worthy of exploration based on the findings of this study. Directing a client toward homework that has the potential to decrease their depressive moods and emotions, associated in the research with levels of blood pressure, cortisol and inflammation (Diener & Chan, 2011) and endorphins (Savage et al., 2017), could be significant in shaping beneficial behaviors. Finally, shared humor when used in the first three minutes of couple conflict has been shown to be a form of pre-emptive repair that attempts to establish emotional connection (Gottman et al., 2015). Helping couples to find their laughter has the potential to impact the ways in which they build their resiliency to relationship stressors and resolve their problems. Play is fun, it is not hard to 'prescribe' and a client may be more inclined to spend time at play when the proven health

benefits can be enumerated, which itself is ironic as play is typically seen as non-goal directed and purposeless.

Third, play has been shown to be focused on process, not on production (Power, 2011), with an increased ability to reframe a situation (Kurtz & Algoe, 2015) and to have an impact on one's perception of stressors (Gordon, 2014). These are some of the underlying fundamentals of therapy. It could be said that play has the possibility to enhance the collaborative work of therapists and clients.

Finally, through developing knowledge in the field of neuroscience and the exploration of the concept of neoteny, there is reason to believe the benefits gained through the expansion of cerebellum capacity and neurogenesis continues through the life span and allow for continued learning and growth into old age (Gilead, 2015). This capacity to continue to exhibit exploratory behaviors throughout the lifespan relates to cognitive flexibility in a way that may assist in alleviating some symptoms of depression. The use of play, playfulness and humor may allow an access points to this bounty for clients and clinicians alike. This proof of the malleable mind may serve as a source of hope to those who find themselves mired in the depths of depression and relational conflict.

APPENDIX A

Play Scale

There are several proposed scales for measuring playfulness, for example The Adult Playfulness Scale (APS) (Glynn & Webster, 1992) or the Adult Trait Play Scale (ATPS) (Shen et al., 2014), but there is not a standard measure that is agreed upon in the literature. Based on what has been reviewed in the literature in regards to play in adulthood, nine items on the Positive Partner Behaviors scale (PPB) are close enough to stand in as a measure of playfulness in this sample. All questions have a 9-point scale, ranging from ‘extremely unpleasant, neutral, and extremely pleasant’. The following are the nine items from the PPB that will be used in this study, to comprise the Play scale:

- # 9 We went to a movie, sporting event, party, etc.
- # 12 We spent time walking or playing with the pet together.
- # 13 We watched TV, listened to music, or read together.
- # 14 We participated in a physical activity or sport together
- # 15 We cooked or worked together on a project, hobby, etc.
- # 16 We played a game together
- # 19 We went on an outing or trip together.
- # 35 Partner called just to say hello.
- # 42 *Partner talked about something humorous.*

APPENDIX B

Dyadic Adjustment Scale (DAS)



Revised - For Couples Within Families Only

DAS (ASSESSMENT)

Gender: _____ Date of Birth: _____ Therapist Code: _____ Family Code: _____

Most persons have disagreements in their relationship. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list. Place a checkmark (✓) to indicate your answer.

	<i>Always Agree</i>	<i>Almost Always Agree</i>	<i>Occasionally Disagree</i>	<i>Frequently Disagree</i>	<i>Almost Always Disagree</i>	<i>Always Disagree</i>
1. Handling family finances	5	4	3	2	1	0
2. Matters of recreation	✓	✓	✓	✓	✓	✓
3. Religious matters	✓	✓	✓	✓	✓	✓
4. Demonstrations of affection	✓	✓	✓	✓	✓	✓
5. Friends	✓	✓	✓	✓	✓	✓
6. Sex relations	✓	✓	✓	✓	✓	✓
7. Conventionality (correct or proper behavior)	✓	✓	✓	✓	✓	✓
8. Philosophy of life	✓	✓	✓	✓	✓	✓
9. Ways of dealing with parents and in-laws	✓	✓	✓	✓	✓	✓
10. Aims, goals, and things believed important	✓	✓	✓	✓	✓	✓
11. Amount of time spent together	✓	✓	✓	✓	✓	✓
12. Making major decisions	✓	✓	✓	✓	✓	✓
13. Household tasks	✓	✓	✓	✓	✓	✓
14. Leisure time interests and activities	✓	✓	✓	✓	✓	✓
15. Career decisions	✓	✓	✓	✓	✓	✓

	<i>All the time</i>	<i>Most of the time</i>	<i>More often than not</i>	<i>Occasionally</i>	<i>Rarely</i>	<i>Never</i>
16. How often do you discuss or have you considered divorce, separation or terminating your relationship?	0	1	2	3	4	5
17. How often do you or your partner leave the house after a fight?	0	1	2	3	4	5
18. In general, how often do you think that things between you and your partner are going well?	5	4	3	2	1	0
19. Do you confide in your partner?	5	4	3	2	1	0

(Over)

	All the time	Most of the time	More often than not	Occasionally	Rarely	Never
20. Do you ever regret that you married (or lived together)?	0	1	2	3	4	5
21. How often do you or your partner quarrel?	↓	↓	↓	↓	↓	↓
22. How often do you and your partner "get on each others' nerves"?	↓	↓	↓	↓	↓	↓

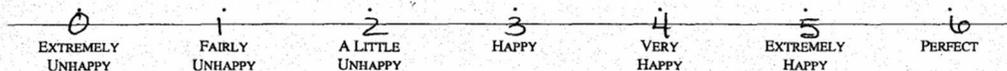
HOW OFTEN WOULD YOU SAY THE FOLLOWING EVENTS OCCUR BETWEEN YOU AND YOUR MATE? CIRCLE YOUR ANSWER.

23. Do you kiss your partner?	4 EVERYDAY	3 ALMOST EVERYDAY	2 OCCASIONALLY	1 RARELY	0 NEVER	
24. Do you and your partner engage in outside interests together?	4 ALL OF THEM	3 MOST OF THEM	2 SOME OF THEM	1 VERY FEW OF THEM	0 NONE OF THEM	
25. Have a stimulating exchange of ideas?	0 NEVER	1 LESS THAN ONCE A MONTH	2 ONCE OR TWICE A MONTH	3 ONCE OR TWICE A WEEK	4 ONCE A DAY	5 MORE OFTEN
26. Laugh together?	0 NEVER	1 LESS THAN ONCE A MONTH	2 ONCE OR TWICE A MONTH	3 ONCE OR TWICE A WEEK	4 ONCE A DAY	5 MORE OFTEN
27. Calmly discuss something?	0 NEVER	1 LESS THAN ONCE A MONTH	2 ONCE OR TWICE A MONTH	3 ONCE OR TWICE A WEEK	4 ONCE A DAY	5 MORE OFTEN
28. Work together on a project?	0 NEVER	1 LESS THAN ONCE A MONTH	2 ONCE OR TWICE A MONTH	3 ONCE OR TWICE A WEEK	4 ONCE A DAY	5 MORE OFTEN

THESE ARE SOME THINGS ABOUT WHICH COUPLES SOMETIMES AGREE AND SOMETIMES DISAGREE. INDICATE IF EITHER ITEM BELOW CAUSES DIFFERENCES OF OPINION OR HAVE BEEN PROBLEMS IN YOUR RELATIONSHIP DURING THE PAST FEW WEEKS. CHECK "YES" OR "NO."

29. Being too tired for sex. Yes 0 No 1
30. Not showing love. Yes 0 No 1

31. The dots on the following line represent different degrees of happiness in your relationship. The middle point, "happy," represents the degree of happiness of most relationships. Please circle the dot which best describes the degree of happiness, all things considered, of your relationship.



32. Which of the following statements best describes how you feel about the future of your relationship? Check the statement that best applies to you.

- 5 6. I want desperately for my relationship to succeed, and would go to almost any length to see that it does.
- 4 5. I want very much for my relationship to succeed, and will do all I can to see that it does.
- 3 4. I want very much for my relationship to succeed, and will do my fair share to see that it does.
- 2 3. It would be nice if my relationship succeeded, but I can't do much more than I am doing now to help it succeed.
- 1 2. It would be nice if my relationship succeeded, but I refuse to do any more than I am doing now to keep the relationship going.
- 0 1. My relationship can never succeed, and there is no more that I can do to keep the relationship going.

DAS.Rev.06/01/04

▶ Disregard any numbers on form during data entry.

APPENDIX C

Beck Depression Inventory (BDI)

BDI

Name: _____ Gender: _____ Date of Birth: _____

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the **PAST WEEK, INCLUDING TODAY!** Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, circle each one. **Be sure to read all the statements in each group before making your choice.**

1. 0 I do not feel sad.
1 I feel sad.
2 I am sad all the time and I can't snap out of it.
3 I am so sad or unhappy that I can't stand it.
2. 0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel that the future is hopeless and that things cannot improve.
3. 0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am complete failure as a person.
4. 0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.
5. 0 I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all the time.
6. 0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.
7. 0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.
8. 0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.
9. 0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.

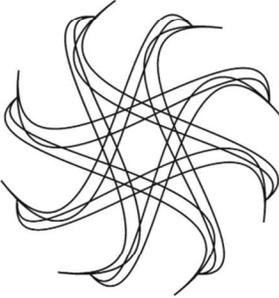
--OVER PLEASE--

BDI 09/2014

10. 0 I don't cry any more than usual.
 1 I cry more than I used to.
 2 I cry all the time now.
 3 I used to be able to cry, but now I can't cry even though I want to.
11. 0 I am no more irritated now than I have ever been.
 1 I get annoyed or irritated more easily than I used to.
 2 I feel irritated all the time now.
 3 I don't get irritated at all by the things that used to irritate me.
12. 0 I have not lost interest in other people.
 1 I am less interested in other people than I used to be.
 2 I have lost most of my interest in other people.
 3 I have lost all of my interest in other people.
13. 0 I make decisions about as well as I ever could.
 1 I put off making decisions more than I used to.
 2 I have greater difficulty in making decision than before.
 3 I can't make decisions at all anymore.
14. 0 I don't feel I look any worse than I used to.
 1 I am worried that I am looking old or unattractive.
 2 I feel that there are permanent changes in my appearance that make me look unattractive.
 3 I believe that I look ugly.
15. 0 I can work about as well as before.
 1 It takes an extra effort to get started at doing something.
 2 I have to push myself very hard to do anything.
 3 I can't do any work at all.
16. 0 I can sleep as well as usual.
 1 I don't sleep as well as I used to.
 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
 3 I wake up several hours earlier than I used to and cannot get back to sleep.
17. 0 I don't get more tired than usual.
 1 I get tired more easily than I used to.
 2 I get tired more doing almost anything.
 3 I am too tired to do anything.
18. 0 My appetite is no worse than usual.
 1 My appetite is not as good as it used to be.
 2 My appetite is much worse now.
 3 I have no appetite at all anymore.
19. 0 I haven't lost much weight, if any, lately.
 1 I have lost more than 5 pounds.
 2 I have lost more than 10 pounds.
 3 I have lost more than 15 pounds.
I am purposely trying to lose weight. Yes ___ No ___
20. 0 I am no more worried about my health than usual.
 1 I am worried about physical problems such as aches, pains, an upset stomach or constipation.
 2 I am very worried about physical problems and it's hard to think of much else.
 3 I am so worried about my physical problems that I cannot think about anything else.
21. 0 I have not noticed any recent change in my interest in sex.
 1 I am less interested in sex than I used to be.
 2 I am much less interested in sex now.
 3 I have lost interest in sex completely.

APPENDIX D

Play Characteristics

<p>dynamic spontaneity, diversity, flexibility, fluidity, unpredictability, plasticity, lability, improvisation, fluency, flow, energy, perspective shift, process orientation, versatility, agility, flux, multistability</p>	<p>lighthearted background feeling of well-being, euthymia, confidence, spirit, cheerfulness, good humor, brio, frolicsomeness, buoyancy, pleasure, animation enjoyment, exuberance</p>	<p>humorous impishness, wit, amusement, ingenuity, mischief, funniness, cheerfulness, good humor, mirth, ribaldry, absurdity, laughter, sense of ludicrous, farce</p>
<p>interactive engagement, socialization, aroused attentiveness, flow, curiosity, appetite, proactivity, connectivity, flirtation, serendipity, communication, competition</p>		<p>imaginative vision, pretense, fiction, virtuality, fantasy, novelty what-if attitude, creativity, experimentation, make-believe, possible worlds</p>
<p>enigmatic ambiguity, contingency, becoming, edge of chaos, dualism, subversion, dimorphism, incongruity, synaesthesia, anomaly, irony, metaphor, paradox, liminality, shape shifting, randomness, probability, chance, dissonance</p>	<p>transformative movement, transition, becoming, metamorphosis, change, evolution, development, adaptation, shift, progress, maturation, transcendence</p>	<p>open-minded integration, permissiveness, holism, synthesis, synergism, accessibility, freedom, pattern or gestalt orientation, unity</p>

(Power, 2011, p. 300)

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