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Together We Move: Exploring Belonging, Basic Psychological Need Satisfaction and Motivational Factors in a Socially Structured University Physical Activity Program

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TOGETHER WE MOVE: EXPLORING BELONGING, BASIC
PSYCHOLOGICAL NEED SATISFACTION AND
MOTIVATIONAL FACTORS IN A SOCIALLY
STRUCTURED UNIVERSITY PHYSICAL
ACTIVITY PROGRAM

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ABSTRACT

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Emerging adulthood is a critical developmental life stage for individuals to establish healthy behaviors that enhance wellbeing, including quality relationships and physical activity (PA) engagement. Institutions of higher education are positioned to influence and support the development of these developmental tasks in emerging adults enrolled on their respective campuses. The purpose of this mixed methods study was to explore experiences of belonging, basic psychological need satisfaction (BNS) in PA-based social relationships, and motives to participate in a socially structured PA program among emerging adults on a university campus. Participants: University students who participated in the Fitness Buddies (FB) program (n=10), along with student interns and volunteers that served as program peer session leaders (n=7) over one academic semester. Participants (N=17) ranged in age from 18-31 years (M=23.29, SD= 4.33). Measures: MPAM-R, BNSR, situational affect emoji check-ins/check-outs, narrative interviews and programmatic data. Results: The majority of participants signed up for the program to improve their health and fitness, and that remained the primary motive of the majority of participants at the conclusion of the semester, along with competence and enjoyment. A positive PA session effect was demonstrated in the sample's cumulative reduction of stress, anxiety and tiredness, and increase in happiness, confidence, energy, and social

connection. Narratives themes from the paired interview data illuminated the ways the FB program provided participants access to support and resources to experience BNS through FB relationships, while also, anecdotally, improving their situational affect, self-confidence, motivation to be consistently physically active, overall mental health, and engagement with academic coursework. Narrative themes also included experiences of true belonging through an environment that supported trust building practices of reliability, non-judgment and generosity. Peed-led, socially structured PA programs on university campuses appear to improve health and wellbeing and support healthy development of emerging adults. The positive experiences of FB participants offer a useful model for ways in which the benefits of social connection through PA could be translated outside of the traditional fitness and recreation center and be brought into spaces like higher education classrooms, to create supportive, active, and healthier learning communities. Programs on college and university campuses that foster belonging and psychological wellbeing, have powerful potential to be a driving force for changing the health and wellbeing of not only the current, but also the next generation of emerging adults.

DEDICATION

This dissertation is dedicated to the Fitness Buddies, who taught me and those around them the immense power of friendship and belonging.

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CHAPTER I

INTRODUCTION

Figure 1. Connection (Brown, 2010; GalleryBritto, 2015)

Emerging adulthood is a unique and dynamic time when individuals transition out of adolescence and begin exploring possible pathways into young adulthood. This is a critical stage of development for individuals to establish healthy behaviors, including quality relationships and lifestyle choices that enhance wellbeing.

**Emerging Adulthood: A Critical Time
to Establish Healthy Habits**

Emerging adults are typically categorized as those 18-25 years, sometimes as old as 29 years, who have "left the dependency of childhood and adolescence, and not yet entered the enduring responsibilities that are normative in adulthood" (Arnett, 2000, p. 469). Arnett's conceptualization of emerging adulthood has similarities to Erikson's (1968) descriptions of prolonged adolescence, but represents a distinct developmental

stage of its own (Reifman, Arnett, & Colwell, 2007). Using Erikson's (1968) Eight

Stages of Psychosocial Development (see Table 1) as a conceptual orientation, emerging

adulthood overlaps Stages Five and Six. Erikson's (1968) Stage Five, that of adolescence,

represents the psychosocial struggle between identity and role confusion, often heavily

influenced by perceived expectations of peers and influential adults such as parents,

teachers and coaches. Stage Six, that of young adulthood, involves the psychosocial

struggle to find intimacy in a life partner, partnered with the fear of remaining alone or

becoming isolated as adulthood progresses (Erikson, 1968).

Table 1

Emerging Adulthood in Relation to Erikson's Eight Stages of Psychosocial Development

Psychosocial Developmental Stage	Age in years	Developmental Challenges & Tasks
Infancy	0-1 ½	Trust vs. Mistrust
Toddler	1 ½ -3	Autonomy vs. Shame
Early Childhood	3-5	Initiative vs. Guilt
Mid-Late Childhood	5-12	Industry vs. Inferiority
Adolescence	12-18	Identity vs. Role Confusion
Emerging Adulthood	18-29	Identity Exploration, Instability, Self-focus, Feeling In-Between, & Possibilities/Optimism
Early Adulthood	18-40	Intimacy vs. Isolation
Middle Adulthood	40-65	Generativity vs. Stagnation
Late Adulthood	65+	Ego Integrity vs. Despair

Emerging adulthood represents a stage of lifespan development in which

individuals engage in sampling and exploration of identity, values, and worldview, with

regards to relationships, education and career, as well as health and risk behaviors.

(Arnett, 2000). Arnett's (2015) developmental theory of emerging adulthood proposes five distinct features of this life stage including identity exploration, instability, self-focus, feeling in-between, and possibilities/optimism, that have been shown to be experienced somewhat universally in the United States, with few significant differences, even across social classes.

Emerging adulthood is a relatively new developmental stage seen predominantly in modern, post-industrial societies marked by great demographic diversity in terms of relationships, family, education, employment and residential dynamics (Arnett, 2015). The majority of emerging adults in the United States, are not yet married, not yet parents, transitioning in and out of college and various jobs and often living 'semi-autonomously' with parents or roommates. This is in strong contrast to the preceding stage of development, when more than 95% of adolescents are enrolled in public education and living with at least one parent. The proceeding stage of development, in young adulthood, also shows great contrast, when the majority of adults in their late twenties and early thirties, begin to marry, have children, and settle into careers and stable places of residence (Arnett, 2000, 2015).

Although not all emerging adults choose to, or are able to, pursue formal college/university education, a large majority do. The number of emerging adults enrolling in college/university after high school graduation grew from 14% in the 1940s (Arnett, 2000) to 66.7% in 2017 (BLS, 2018). This large and rapid increase in college/university enrollment was fueled by the technology revolution that automated once dominant industrial jobs, along with the women's movement that expanded what roles women were allowed and socially expected to assume. These factors culminated

and resulted in the presence of the distinct developmental life stage of emerging adulthood (Arnett, 2015). As such, universities and colleges today, have greater access to and significant influence over the development of a greater number of emerging adults, than ever before (Plotnikoff et al., 2015).

With such a large and growing number of emerging adults enrolling in colleges and universities, the heath of the student populations on these campuses has become a substantial priority and research focus for campus administrators, faculty and staff. Student health and well-being is directly tied to student productivity, academic success, quality of life and ultimately, enrollment and retention (Plotnikoff et al., 2015), with high rates of stress, depression and anxiety associated with burnout and poor academic performance (Dogra et al., 2018).

The American College Health Association (ACHA) is a professional organization leading efforts in research and best practices for campus health and wellness (ACHA, 2018a). ACHA annually conducts the National College Health Assessment (ACHA-NCHA) to assess student health behaviors and perceptions in a range of health issues, including alcohol and drug use, physical activity (PA), nutrition, and body composition, mental health, and personal safety and violence (ACHA, 2018b).

With more than 95,000 students from 137 higher education institutions surveyed in the spring of 2016, the ACHA-NCHA provides a useful snap shot of the health of emerging undergraduate adults across the United States. Although 83.7% of students surveyed reported their heath as "good," "very good," or "excellent," some of the behavior specific data are concerning for physical and mental health and not necessarily congruent with those self-reports of overall health.

Similar to the rates of PA seen across ages in the general population (Centers for Disease Control and Prevention [CDC], 2018a; President's Council on Sports, Fitness & Nutrition, 2017), 50% of students reported not meeting PA recommendations (ACHA, 2016). PA has been well documented to prevent and reduce the risk of development of cardiovascular disease, stroke, obesity, type 2 diabetes, osteoporosis, high blood pressure, some types of cancer, cognitive decline and dementia (Müller-Riemenschneider, Reinhold, Nocon, & Willich, 2008; Reiner, Niermann, Jekauc, & Woll, 2013; Rhodes, Mark, & Temmel, 2012). PA has also been shown to improve mood, health related quality of life, and psychological well-being, alleviate, at least in part, symptoms of depression and anxiety, as well as reduce stress (Dogra et al., 2018; McPhie & Rawana, 2015; Penedo & Dahn, 2005). Emerging adults are at especially high risk of mental health concerns (Baggio, Studer, Iglesias, Daeppen, & Gmel, 2017), exemplified with more than 50% of students reporting in the last 12 months, they "felt hopeless," "very sad," and "overwhelming anxiety," while 37.5% of students "felt so depressed it was difficult to function," and more than 80% of students "felt exhausted and overwhelmed" (ACHA, 2016). Given the mental health benefits of PA, sedentary activity patterns could be contributing to and/or exacerbating the mental health challenges reported by students.

The alarming rates of self-reported depression and anxiety are compounded by the fact that 60.8% of students reported feeling "very lonely" during the last 12 months (ACHA, 2016). The absence of social connection is often described, measured and studied in terms of social isolation. While research has shown detrimental effects of both perceived and objective isolation, perceived social isolation, or perceived loneliness, has been shown to result in far more pervasive, adverse outcomes including higher blood

pressure, poor sleep quality, increased inflammation, weakened immune system, changes in gene expression linked to chronic metabolic conditions, cardiovascular disease, cognitive decline, addiction, depression, suicide, aggression and violence (Cacioppo & Patrick, 2008; Cacioppo, Hawkley, Norman, & Berntson, 2011; Karren, Smith, & Gordon, 2013; Seppala, Rossomando, & Doty, 2013). In considering the severe health outcomes of perceived loneliness, it is markedly noticeable that PA, even in small 'doses' is consistently associated with reduced risk of a great number of the same diseases and conditions, both for physical and mental health, that are exacerbated by lack of social connection (CDC, 2018b; Warburton & Bredin, 2017).

The need for fundamental connection to others and quality relationships is an innate need, critical for human survival, development and flourishing (Baumeister & Leary, 1995; Deci & Ryan, 2014). Strong social relationships during emerging adulthood, specifically those with peers, have been associated with decreased depression, improved mood, self-reported happiness, and are essential to positive development and continued psychological wellbeing into adulthood (O'Connor et al., 2011; Padilla-Walker, Memmott-Elison, & Nelson, 2017; Pettit, Roberts, Lewinsohn, Seeley, & Yaroslavsky, 2011).

Social Connection through Physical Activity

Increasing evidence suggests both quality social connection and regular PA are powerful factors that contribute to sustained health and well-being throughout the lifespan, yet these factors are reported to be lacking or insufficient in a majority of emerging undergraduate adults (ACHA, 2016). Putnam (2000) suggested that productive social activities that are active and cooperative, like sport and PA, are far more beneficial

for social connection, as they form stronger social ties, compared to consumptive and passive social activities such as 'Netflix and chill.' Not all physical activities provide social connection opportunities, but many do, such as group exercise classes, walking and running clubs, dance, community gardening, outdoor boot camps, adventure and obstacle course races and recreational and elite sport leagues (Standage & Emm, 2014). Researchers and practitioners have struggled for decades to find ways to get people moving and keep them moving; while short term exercise interventions may offer modest results and improvements in health markers, participants are not likely to continue exercising on their own for the long term, when the social and resource supports of the intervention cease (Nielsen et al., 2014). However, findings have shown that PA interventions that intentionally foster social support, social networks, community engagement, social connection and/or friendships have positive and sometimes longer lasting results (Dollman, 2018; Graham et al., 2017; Jago et al., 2009; Nielsen et al., 2014; Sims-Gould, Vazirian, Li, Remick, & Khan, 2017).

Self-Determination Theory

Self-determination theory (SDT) is a meta-theory, comprised of six mini-theories, that provides a theoretical framework appropriate for exploring social connection and PA among emerging undergraduate adults.

Basic Needs Theory

Basic Needs Theory (BNT), a mini-theory of SDT, provides a theoretical and measurable base to analyze the degree to which the three basic psychological needs of autonomy, competence and relatedness are satisfied, and the extent to which those subsequently impact motivation and psychological well-being. Autonomy refers to

volition and an individual's perception of the degree of choice in their own behavior (Deci & Ryan, 2000). Competence is defined as the degree to which an individual feels effective interacting with one's environment when taking on optimally challenging tasks, as well as an individual's perception of being granted opportunity to display this effectiveness (Deci & Ryan, 2000). Relatedness refers to the innate human need to feel connected to others and feel a sense of belonging (Deci & Ryan, 2000). BNT considers how and why behavior is regulated by the extent of satisfaction of these three basic psychological needs (Deci & Ryan, 2000). Researchers have consistently found, across domains, that individuals with greater overall need satisfaction tend to be more autonomously regulated, and in turn have been shown to perform better, experience less burnout and have higher levels of psychological wellbeing (Black & Deci, 2000; Deci & Ryan, 2008). Understanding the degree of basic psychological need satisfaction (BNS) can provide insight into how well emerging adults are functioning and experiencing wellness (Sibley, Hancock, & Bergman, 2013).

Relationship Motivation Theory

Relationship motivation theory (RMT) is the most recently developed mini-theory under the larger SDT umbrella. RMT offers a framework to illuminate and measure the rich benefits of the "highest quality close relationships" (Deci & Ryan, 2014, p. 56). While relatedness need satisfaction contributes to the perceived quality of interpersonal connections, relationships experienced as the most fulfilling and satisfying, foster need satisfaction of autonomy and competence in addition to relatedness. Individuals in high quality relationships have been found to more easily navigate conflicts, are more likely to benefit from receiving and giving reciprocal autonomy support and will ultimately

experience greater psychological well-being (Deci & Ryan, 2014). Thwarting of need satisfaction in relationships may happen when one person in a dyadic relationship is acting in a way to control the other person, sees the person an objectified means to an end or values extrinsic goals such as financial wealth or fame, which in turns tends to diminish their ability to see the inherent (non-instrumental) worth in others (Deci & Ryan, 2014).

True Belonging

Brené Brown (2017), in her grounded theory work, developed a theory of true belonging (TB) that powerfully reflects and complements the concepts of RMT, the fundamental need for BNS in our relationships. Brown (2017) defines true belonging as:

> …the spiritual practice of believing in and belonging to yourself so deeply that you can share your most authentic self with the world and find sacredness in both being a part of something and standing alone in the wilderness. True belonging doesn't require you to change who you are; it requires you to be who you are. (p. 40)

Brown (2017) emphasizes our shared humanity and inextricable human connection which aligns closely with RMT (Deci & Ryan, 2014), in that, in order to experience the greatest possible connection to other humans, we must be surrounded by those who support us in our autonomy, empowering us to feel competent enough to stand in the 'wilderness,' while knowing we are not alone. In less healthy and sometimes destructive relationships, in which basic psychological needs are not satisfied or supported, individuals may be more likely to change, at least in presentation to others, who they are through continual pursuit of status and recognition.

The combination of the theoretical lenses of RMT and TB, are profoundly salient for understanding emerging undergraduate adults who are struggling through developing their own self identities while also attempting to develop new social networks and learn how to engage in and maintain healthy, quality peer and romantic relationships. Identity development and close, positive, peer relationships are two of the major developmental tasks critical for emerging undergraduate adults to continue to develop and flourish into young adulthood (Pratt & Matsuba, 2018). Relationships that afford and reciprocate satisfaction of autonomy, competence and relatedness needs and allow emerging undergraduate adults to be their authentic selves, even as those selves are in flux, could be a key to the health and psychological wellbeing of those in this developmental life stage. College and university campuses are critical settings to foster, support and mentor these types of high-quality relationships due to the large proportion of emerging adults that will attend one or more colleges and/or universities before transitioning into young adulthood.

Need for the Present Study

Researchers have consistently called for health, and higher education, professionals to be aware of, and focus on, promoting and supporting healthy behaviors for college students, through education, research, policy and strategically designed campuses (Plotnikoff et al., 2015). This need is considered quite critical due to the prevalence of engagement in risky and unhealthy behaviors seen throughout emerging adulthood, including lack of PA, poor nutrition, alcohol and substance use and abuse, insufficient sleep, and risky and distracted driving (Keating, Guan, Piñero, & Bridges, 2005; O'Connor et al., 2011; Simons-Morton et al., 2017). Researchers have specifically

called for PA research to address growing mental health concerns on university campuses (Dogra et al., 2018). Students navigate through college as emerging adults with uncertainty, as they explore identity and values, under less parental control, within evolving social networks and norms. These factors create a developmental life stage of great malleability during which healthy and/or destructive behaviors adopted during this stage may become solidified later on in adulthood (Daw, Margolis, & Wright, 2017; Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008).

If emerging adults enter adulthood, with factors such as sedentary behavior, lack of healthy relationships, loneliness and compromised mental health, they are highly likely to retain these behaviors and challenges into young adulthood and beyond (Newcomb-Anjo, Barker, & Howard, 2017; Stone, Becker, Huber, & Catalano, 2012). When these maladaptive behaviors are carried into adulthood, they can have negative lifelong implications on health and well-being, as well as significant population level social and economic consequences (O'Connor et al., 2011). However, emerging undergraduate adults also have the incredible capacity to learn and adopt behaviors such as consistently engaging in PA, and creating and maintaining quality social relationships, that can lead to flourishing in adulthood with optimal health and wellbeing (Padilla-Walker & Nelson, 2017).

Feeling competent, autonomous and connected in healthy and active spaces has great potential to have a positive, multiplicative effect on health and psychological well-being. A theoretical lens utilizing the combination of RMT and TB could change the vantage point from which we consider the value, utility and interplay of relationships in spaces where people are physically active. Research is warranted to examine the optimal

interpersonal dynamics of complex social environments; considering how and why quality, satisfying and reciprocal social relationships develop when we experience PA within contexts that promote connection to others.

Purpose

The purpose of this study was to explore experiences of belonging, BNS in PA-based social relationships and motives to participate in a socially structured PA program among emerging adults on a university campus.

Research Questions

Q1 Is greater need satisfaction, of autonomy, competence and/or relatedness, through PA-based social relationships associated with a greater number of socially structured PA sessions attended?

Q2 What are the participation motives for engagement in a socially structured university PA program?

Q3 Are social, fitness, appearance, competence and/or enjoyment motives associated with BNS of autonomy, competence and/or relatedness?

Q4 Does an individual's situational affect change positively, negatively or remain the same, when measured before and after each socially structured PA session, as well as across sessions over the semester?

Q5 What is the narrative told by participants who are asked to tell the story of their journey through a socially structured university PA program?

Q6 What is the nature of feelings and/or experiences of true belonging when participating in a socially structured university PA program?

CHAPTER II

REVIEW OF LITERATURE

Social connection and PA are essential to longevity and flourishing. Our bodies and our spirits gradually and reliably break down without movement and genuine social connection to other human beings. While the 'dose' needed to sustain each individual will vary, the need for both is universal across nations and cultures. Emerging adults are at especially high risk of retaining compromising behaviors, including unhealthy and unstable social relationships, and sedentary behavior, that will carry with them as established behavior patterns into young adulthood and beyond (Daw et al., 2017; Stone et al., 2012). The following review of literature summarizes the current body of knowledge on physical and mental health concerns and behavioral patterns among emerging adults on college and university campuses, as well as findings on social connection, perceived loneliness, and relatedness and belonging in the context of PA.

Health Considerations for Emerging Undergraduate Adults

Emerging adulthood is a uniquely critical time in lifespan development in which quality social connection and healthy choices, including consistently engaging in PA are critical for successful development and transition through the life stage. Emerging undergraduate adults, in a time of volatile transition are at high risk for poor physical and mental health, often exacerbated by the tendency to engage in risk behavior while trying to simultaneously establish personal identities, relationships and worldviews (Nelson et al., 2008). This developmental stage presents a time of highest risk for both increases in

body weight and rates of obesity (Daw et al., 2017; Nelson et al., 2008), as well as development of psychiatric disorders (Baggio et al., 2017). University students have been reported to have far greater average rates of depression (30.6%) than the general population (9%) (Ibrahim, Kelly, Adams, & Glazebrook, 2013). The ACHA (2012) has developed student health outcome objectives for campuses to work towards as a part of the ongoing Healthy Campus initiative, designed to mirror the CDC's Healthy People national health objectives. These objectives include increased PA and health promotion measures that will reduce physical and mental health ailments that reduce and impede academic performance (ACHA, 2012).

Physical Activity

Rates of engagement in PA begin to decline in late adolescence and tend to continue to decline through emerging adulthood, with 50% or more of college students not regularly physically active, and even fewer when they reach young adulthood with increasing sustained responsibilities (Nelson et al., 2008; Plotnikoff et al., 2015). In addition to not engaging in regular PA, college students have been reported to sit for extended periods of time, up to six hours a day, typically in front of a phone, computer or television screen (D'Abundo, Sidman, & Fiala, 2015). PA is equally important for mental health as it is for physical health. Higher rates of PA in adolescence have been associated with lessened and consistently lower levels of depression throughout emerging adulthood (McPhie & Rawana, 2015). A review of PA in relation to stress, depression and anxiety in college students found mixed results, with most studies addressing depressive symptoms, but PA measures and standards vary widely (Dogra et al., 2018). Warburton and Bredin (2017) present a critical systematic review of PA literature and argue that

health professionals should not be using "threshold messages," where a minimum number of minutes of PA are prescribed; that these recommendations are in fact not evidence based and health benefits are realized at far lower levels of PA than the standard accepted threshold levels. The suggestion to move away from a standardized amount of PA that individuals need in order to experience benefits, creates a foundation to begin encouraging people to just move as much as possible, and sit as little as possible. The message to move as much as you can each day, is far less prescriptive and less daunting, and could be more successful in long term PA adoption and adherence for more of the general population.

Institutions of higher education have been cited as an ideal place to implement PA and health related education and interventions due to the large reach of millions of emerging adults enrolled at these campuses. Students reside on theses campuses during a developmental stage when they can instill lifelong health behaviors more easily than later in life, in addition to the convenient access to recreational facilities and faculty experts to facilitate and create such programs (Keating et al., 2005; Plotnikoff et al., 2015). In a meta-analysis examining the effectiveness of PA and nutrition interventions for university and college students, results generally showed that post-secondary educational institutions are a promising setting for such interventions, with many studies reporting significant increases in PA minutes, days, intensity and duration (Plotnikoff et al., 2015). Interventions that lasted less than an academic semester reported a greater effect on psychological outcomes than longer interventions which underlies the challenge of facilitating long term behavior change in emerging undergraduate adults rather than temporary change (Plotnikoff et al., 2015).

Peer influences on physical activity. In examining college students' motivations to engage in PA, students interviewed demonstrated introjected regulation of behavior, reporting that peer communication and relationships influenced behavior through both peer accountability, and perceived peer and societal pressure to be active, healthy and/or maintain a particular body composition (Fletcher, 2016). When surveyed about motives and barriers to increasing exercise involvement, college students who were classified as non-exercisers reported that having others to start exercising with would help them start exercising more (Ebben & Brudzynski, 2008). In a study of undergraduate students at the University of Hawaii, students' friends who were perceived to be more physically active were perceived as influencing personal PA behavior the most, and it was recommended that universities consider utilizing peer leaders to promote increased PA among students (Harmon, Forthofer, Bantum, & Nigg, 2016). Calamidas and Crowell's (2018) content analysis of undergraduate students' personal reflections on health behaviors found influence and support from families and peers among the top reasons listed for factors that reinforce negative health behaviors, as well as factors that both help and hinder adopting healthier behaviors; underscoring the power of social influence in health behaviors, including PA. An ethnographic case study of international students found PA to be a non-threatening space in which international students could practice intercultural communication and build their social relationships and networks (Li & Zizzi, 2018). Socializing was also found to be a partial mediator in the relationship between vigorous physical activity, improved mental health and reduced perceived stress (VanKim & Nelson, 2013).

Social connection and peer relationships

Social connection and quality social relationships not only improve PA engagement in emerging undergraduate adults, as noted in the research reviewed above, they are critical for successful psychosocial development, and for their impact on, and benefits to, health aforementioned. Often times the transition out of high school and into college begins the breakdown of well-established peer groups from adolescence, with the need to form new peer groups and networks (Padilla-Walker et al., 2017), creating a high-risk time to trigger loneliness in emerging undergraduate adults (Fiori & Consedine, 2013). Social connectedness has been reported as a circular phenomenon where those more socially connected are more likely to engage in socially oriented memberships, while those socially isolated are less likely to do so, exacerbating concerns for well-being and social (in)equality (Toepoel, 2013). Lack of social connection, low degree of social integration, lack of social relationships and perceived loneliness have been shown to increase odds of mortality by as much as 91%, ultimately making social isolation as powerful a risk factor for morbidity and mortality as smoking, diabetes, high blood pressure, and more so than obesity and lack of PA (Yang et al., 2016). In a longitudinal study of emerging adults, "better friendship quality predicted lower levels of depressive symptoms via decreases in self-criticism," which is an important finding for the prominent mental health concerns found in emerging adulthood (Kopala-Sibley, Zuroff, Hermanto, & Joyal-Desmarais, 2016, p. 308).

The Fundamental Need for Social Connection

The consistent pattern of findings on the power of social influence on health behaviors and the impact of social connection on long term health outcomes underscores

the universal truth that humans are social beings. Junger (2016) emphasizes that "we have a strong instinct to belong to small groups defined by clear purpose and understanding-'tribes.' This tribal connection has been largely lost in modern society, but regaining it may be the key to our psychological survival." Connecting with other humans is a principle that is both simple and profound, natural and challenging, and too often elusive. Finding lasting, quality and deeper connections to people in our actual physical midst has become more challenging and complex in a technological age where you can digitally connect to people around the globe with a single click (Capecchi, 2018). The need for fundamental connection to others and quality relationships is an innate need, critical for human survival, development and flourishing (Baumeister & Leary, 1995; Deci & Ryan, 2014).

Social connection, has been defined as, "a person's subjective sense of having close and positively experienced relationships with others in the social world," and is arguably one of our most powerful and unwavering indicators of health and well-being (Seppala et al., 2013, p. 412). A critical aspect of this definition is that connection is *subjective* or perceived by the individual. A sense of relatedness has been described as perceptions of worthiness to be loved and ability to trust others in the social world (Shen, McCaughtry, Martin, Fahlman, & Garn, 2012). The World Health Organization (WHO) includes social well-being and social relationships as critical components in defining and assessing health and quality of life (Saxena, Orley, & WHOQOL Group, 1997). In all of our social interactions we will simultaneously experience emotional and physiological responses, as the cognitive processes of the brain, and the physiological processes of the body (including the immune system), are inextricably linked.

Research in the field of psychoneuroimmunology has underscored this through evidence of the intricate connections of the brain, emotional responses and the immune system (Karren et al., 2013). This is why we often get sick following especially stressful life events, such as final examinations or a breakup with a significant other, but it is also why social connection is not as much about things, such as being popular, meeting up at happy hour or having the most Facebook friends, but rather it is more importantly, a legitimate indicator of physical and mental health.

There are several evolutionary perspectives on why humans are socially driven for survival, more so than physiologically driven. Dacher Keltner (2009) has argued, through his research on compassion, that Darwin, who never used the term 'survival of the fittest,' was grossly misrepresented by those attempting to advance Social Darwinism and ultimately social and racial inequities. Keltner suggests that the most accurate title to Darwin's work might have been, *survival of the kindest*, offering Darwin's own writings that emphasized the greatest chances of survival would be when sympathy and cooperation were naturally selected (Goetz, Keltner, & Simon-Thomas, 2010; House, Landis, & Umberson, 1988).

Lieberman and colleagues at the Social Cognitive Neuroscience Laboratory at UCLA, have utilized technological research innovations using functional MRI and functional near infrared spectroscopy (fNIRS) to demonstrate that the brain's default, or resting mode, engages the same regions of the brain that are responsible for social tasks, that is the tasks of engaging with or thinking about other people (Lieberman, 2013). Findings from this research have demonstrated that social rejection activates a message of social pain that is not always distinguishable from physical pain (Eisenberger,

Lieberman, & Williams, 2003). Lieberman (2013) ultimately arguing that Maslow's (1954) hierarchy of needs were inaccurate when presuming that food, shelter and water were the most foundational motivational factors necessary for human growth and development. It is quite a powerful finding that our brain may very well use 'rest time' to enhance social parts of the brain. This critically demonstrates how highly the brain prioritizes social connection.

     While some of the research findings on social connection, focused specifically on belonging and social support, suggest that relationships have to be emotional and intimate to be perceived as satisfying and be beneficial to one's health (Seppala et al., 2013), other research findings from social psychology have shown just how powerful the evolutionary social drive is by conducting controlled experiments in which even a brief or impersonal priming of connection, had significant influences on behavior, cognition and physiological responses. For example, individuals given word activities that primed for relatedness (i.e., "community, together, connected, relationship") reported higher interest in volunteering, higher sense of connectedness, greater intentions for prosocial behavior and actually donated more money to charity, compared to those who were primed for a focus other than relatedness (Pavey, Greitemeyer, & Sparks, 2011). When primed for cues to work together on a common task, even when working physically alone, participants displayed increased intrinsic motivation, worked harder and persisted to complete a challenging task, performed better on the task and showed greater interest and enjoyment during the process (Carr & Walton, 2014). Cwir, Carr, Walton, and Spencer (2011) found individuals in a social connection manipulation condition, in which participants were made to believe they had commonly held interests with a research

confederate, subsequently experienced shared emotions and physiological responses to that confederate's experience of stress and physical exertion, despite the participant and confederate being strangers. Undergraduate students displayed greatest intensity of goal pursuit when they were primed to think they were sharing the same individual goals with similar others (Shteynberg & Galinsky, 2011). Additionally, researchers that assigned participants to engage in sixty days of loving-kindness meditation, while tracking their positive and negative emotions and social connections each day, found perceived social connections to be a causal link between positive emotions and improved cardiac vagal tone, an established marker of health and longevity (Kok et al., 2013).

Social Connection and Physical Activity using a Self Determination Theory Framework

Social connection has also been examined using the theoretical framework of SDT in dynamic and natural interpersonal settings, including those involving PA participation. SDT, again, is a large meta theory examining motivation and personality that measures and seeks to predict the how and why of motivated behavior by considering, among other factors, behavioral regulation on a continuum from intrinsic motivation, to external regulation, to amotivation (Deci & Ryan, 2000). SDT also includes BNT that provides a framework to measure the degree of satisfaction of the three basic psychological needs of autonomy, competence and relatedness (Deci & Ryan, 2000).

Throughout the exercise participation motivation literature, a recurring finding is that one of the most common reasons for initially engaging in exercise is identified regulation, driven by competence needs to learn new skills and relatedness needs to access opportunities for new and continued social engagement (Teixeira, Carraça,

Markland, Silva, & Ryan, 2012). Long term exercise participation, or adherence, however, was driven by more intrinsic motives, including autonomy needs (Chen, 2014; Kinnafick, Thøgersen-Ntoumani, & Duda, 2014; Standage & Ryan, 2012; Teixeira et al., 2012). Additionally, individuals often choose to engage in seemingly uninteresting activities because they are externally regulated by the value to connect with someone who is modeling that particular behavior (Ryan & Deci, 2000).

Relatedness, the BNT construct for measuring social connection, is the fundamental psychological need to connect and experience belonging with others, regardless of the belief in the need or motivation to connect (Deci & Ryan, 2014). Findings focused on relatedness are limited, as a majority of studies either report overall perceived BNS (of competence, autonomy and relatedness together), find stronger associations and predictive factors for competence and autonomy, and/or find relatedness to be a weak or non-significant factor (Bice, Ball, Parry, & Adkins, 2016; Schneider & Kwan, 2013; Sibley & Bergman, 2017; Springer, Lamborn, & Pollard, 2013; Wilson, Rodgers, Blanchard, & Gessell, 2003).

Perceived relatedness need satisfaction measured in the PA literature, has been reported as weak and inconclusive associations, and as a more distal contributing factor to intrinsic motivation, when compared to perceived competence and autonomy satisfaction (Standage & Emm, 2014). A systematic review, specifically analyzing studies of PA and exercise framed in SDT, reported consistent evidence that relatedness did not have a significant association or correlation with exercise behavior (Teixeira et al., 2012). McDonough and Crocker (2007) evaluated perceived needs satisfaction in adult dragon boaters, to see if relatedness in a highly social and cooperative sport, would

be more predictive of behavioral regulation and positive affect, but found each of the three needs to significantly and uniquely contribute to self-determined motivation. Similarly, Davies, Coleman, and Babkes Stellino (2016) found all three basic needs to explain variance (38.8%) in autonomous regulation, with autonomy and relatedness needs satisfaction, significantly and positively predicting autonomous regulation. Brunet, Gunnell, Teixeira, Sabiston, and Bélanger (2016) proposed a bifactor model accounting for complementary effects of general perceived need satisfaction along with specific need satisfaction to better predict PA behavior.

In contrast, a slowly growing body of knowledge has demonstrated value in examining the positive associations between relatedness and PA (Wilson & Bengoechea, 2010). Relatedness was found to be the factor that best predicted psychological health markers in cancer survivors engaged in leisure-time PA (Mack, Meldrum, Wilson, & Sabiston, 2013). Students enrolled in online physical education courses, playing online exergames (Xbox 360 Kinect) in competition (remotely) with another student online experienced increased perceived relatedness, which served to satisfy social physical education goals (Kooiman & Sheehan, 2015). Youth in recreational summer camp settings reported increases in mechanisms of relatedness (opportunities for challenge, learning, informal social interactions, peer role models and meaningful roles), both for those with and without disabilities (D'Elola & Sibthorp, 2014).

Perceived Relatedness Support in
Physical Activity Settings

The interpersonal context of an activity or program (work, school, sports) will encourage or deter psychological needs satisfying behavior and goal attainment depending on the feedback given and values supported by significant others in that social

environment (Deci & Ryan, 2008). Studies examining autonomy support in personal and

professional settings including in schools, clinics, sports and recreation, as well as at

work and at home, have demonstrated consistently that autonomy supportive

environments, in which influential others such as teachers, coaches, supervisors,

practitioners and parents are perceived as providing autonomy support, resulted in better

performance and greater well-being (Baard, Deci, & Ryan, 2004; Deci & Ryan, 2008). A

critical consideration that is missed in the literature that demonstrates how beneficial to

performance and psychological well-being autonomy supportive leaders, peers and

environments are (Standage & Emm, 2014), is that the crucial autonomy support stems

from a relationship, from a social connection, at its core.

A growing body of evidence reveals the benefits of perceived relatedness support

in active social settings like physical education and sport. Relatedness support is the

degree to which an individual feels that significant and influential others in a particular

setting or domain are genuinely interested in their well-being (Williams, Whipp, Jackson,

& Dimmock, 2013). Relatedness support should not be confused with social support;

whereas social support is often posited as a way to help others in times of challenge or

stress, relatedness support may be a "more pervasive environmental feature… provided

on an ongoing basis without the presence of overt supportive acts… [with] ongoing

displays of interest, warmth, and companionship, as well as general expressions of

understanding, enjoyment, and cooperation" (Williams et al., 2013, p. 414). Researchers

have found that greater perceived relatedness support from teachers, parents, coaches and

peers can improve motivation, enjoyment and retention (Cox, Duncheon, & McDavid,

2009; Shen et al., 2012; Sparks, Lonsdale, Dimmock, & Jackson, 2017; Williams et al., 2013).

Universal Need for Relatedness

The foundational tenets of BNT emphasize that basic psychological needs, including relatedness, are fundamental to human flourishing. However, some marked gender differences concerning need for relatedness and relatedness satisfaction have been reported in the sport and PA motivation literature. In a study of youth after school programs supporting daily PA accumulation, social relatedness factors were found to be more important for girls who were observed more often sitting together talking, whereas for boys all three needs were correlated with PA behavior, along with access to equipment, and supervised organized activities (Zarrett, Sorensen, & Cook, 2015). Several scholars have suggested that males have less need for relatedness and social connection, and tend to be more externally regulated, focused on performance and competition (Seppala et al., 2013; Stults-Kolehmainen, Gilson, & Abolt, 2013).

Deci & Ryan (2014) emphasize that "even people who say and, indeed, believe, that they do not want to connect with others will nonetheless suffer ill effects if they do not experience relatedness or belonging" (p. 54). Generalizations of gender differences in need for relatedness, may not be a matter of difference in need, but more so a matter of socialization. Boys and men are often taught the social expectations of masculinity, to believe they shouldn't express or engage emotionally, including through close and intimate social relationships, and as a result may not self-report high levels of perceived relatedness (Connell, 2008; Messner, 1992). It is also important to caution that these

studies have analyzed gender as a binary, disregarding the great variation across the gender identity spectrum.

Generalizations, specifically those stemming from motivational literature with youth, exacerbate false stereotypes of boys' superior physical ability in comparison to girls, and girls' assumed lack of interest in physical competence (Coakley, 2015; Vealey & Chase, 2015). In a study of adolescent boys, competitive soccer players, relatedness was found to be the most significant factor in persistence to compete (versus dropout), but the finding in that study was attributed only to the 'inherent team cohesion' present in a soccer team, without any consideration of boys' need for relatedness (Calvo, Cervelló, Jiménez, Iglesias, & Murcia, 2010). Relatedness support was suggested as a buffer against marginalization from such stereotypes in women's golf, prone to high dropout in the male dominated sport (Williams et al., 2013).

In addition to reported gender differences, it has been reported that individuals residing in collectivist cultures, compared to individualistic cultures, had greater association between PA and perceived relatedness, moderated by interdependent self-construal (Poon & Fung, 2008). However, as Chirkov (2014) argued with reference to autonomy, the basic psychological needs, as framed in BNT are intended to be universal, not only across life domains, but among individuals across diverse cultures. This statement emphasizes a need for caution in making dichotomous generalizations about need for relatedness among cultures, genders, and perhaps other demographic categories.

Summary

There exist numerous overlaps in the biopsychosocial effects and benefits of both quality social connection and consistent PA engagement. Emerging adults enrolled in

colleges and universities, present a population full of both great potential and great risk in terms of long term health behaviors. Behaviors established by emerging undergraduate adults can either complement healthy outcomes and flourishing in young adulthood or contribute to destructive and toxic patterns that accompany the development of chronic conditions and disorders (Nelson et al., 2008). The ACHA-NCHA (2016) statistics present serious concerns for the current and future health of emerging undergraduate adults who will comprise a significant proportion of adults in the immediate future. Additionally, the findings underscore the need for institutions of higher education to better support improving the health and wellness of students.

University campus-based PA programs quite often focus primarily on increasing PA and/or improving diet without intentional concern for meaningful social connection (Plotnikoff et al., 2015). So, if we instead set about to study the quality of relationships in spaces where people are physically active we may be able to expand knowledge of the possibilities, necessity and benefits of social connection and PA. The present research will contribute to the literature by exploring the experiences with, motivation for, and benefits of, PA-based social relationships. This study will be the first, to my knowledge, to use the combination of RMT and TB as a framework for measuring the presence and quality of relationships in a PA setting.

CHAPTER III

METHODS

To examine the unique nature and potential benefits of PA-based social relationships, a mixed methods design was used to gain an in-depth understanding of participants' experiences in a socially structured university PA program. The dynamic and complex nature of social relationships warranted exploration through multiple data sources.

Participants

Study participants were university students who signed up for the Fitness Buddies (FB) program (n=10), along with student interns and volunteers that served as program peer session leaders (n=7). Participants (N=17), including peer leaders and program participants, ranged in age from 18-31 years (M=23.29, SD= 4.33), with 52.9% identifying as female, and 42.1% identifying as male. Participants were majority White (64.7%), followed by Black (11.8%), both Hispanic and White (11.8%), Hispanic only (5.9%), and unknown (5.9%). The distribution of participants' current year in school were 35.3% seniors and 29.4% juniors, followed by 17.7% sophomores, 11.8% graduate students and 5.9% freshmen. A wide range of academic majors were represented by participants including Business Finance, International Business, Accounting, Political Philosophy, Exercise Science, Computer Science, Computer Engineering, Health and Wellness Promotion, Biomedical Science, Game Design, Nutrition, Mathematics, and English.

The Fitness Buddies Program

The FB program was a free ongoing campus-based PA program at one university in the Rocky Mountain region of the United States. The primary objective of the FB program was to foster peer-based social connections between emerging undergraduate adults in a PA context (University of Colorado Colorado Springs, 2018). The FB program was intentionally developed (e.g. marketing, peer leader selection, training processes, etc.) to be a welcoming and inclusive program where students who typically would not utilize campus recreation facilities would feel safe and supported to engage in PA of their choice. FB program marketing featured words like wellness, movement, support, accountability, motivation and flexibility. Marketing materials purposely did not emphasize or use physical fitness or body composition terms such as strength, speed, endurance, getting in shape, or weight loss, that are often features of fitness programs. All marketing images featured students of diverse backgrounds working out together with observable enjoyment, rather than images of peak performance or maximal effort.

The FB program provided undergraduate students the opportunity to sign-up through the university wellness website to engage in one-hour PA sessions with a student peer leader, one to two times per week. Sessions were often one-on-one, but sometimes included small groups of up to 4 peers, including the peer leader. FB participants additionally had the option to join weekly, peer-led large group sessions. Students who signed up could request a peer leader based on that leader's posted bio, which included the leader's first name, year in school and major, as well fitness, sport and PA backgrounds and interests (i.e., background in swimming or weightlifting or loves go

hiking, etc.). When students did not request a specific peer leader, they were matched with one based on common activity interest and/or compatible schedules.

Buddies (peer leaders and FB participants) communicated with each other the day before their scheduled session and agreed to participate together in activities based on common interests, including, but not limited to, walking, jogging, running, hiking, swimming, yoga, intramural sports, group fitness classes, HIIT, circuit training, weightlifting, or rock climbing. All peer leaders communicated regularly with each other and the faculty advisor using the GroupMe app, and worked diligently to cover one another's sessions when illness, complications, or emergencies arose. In cases when a program participant signed up, but did not begin sessions or did not continue after the first session, efforts were made to contact that student 2-3 times after initial contact, and/or ask if they would prefer to try a session with a different peer leader in order to try and find the most compatible match. Peer leaders worked with program participants during times of transition, including graduation and semester transitions, to ensure participants who wanted to continue in the FB program remained matched with a leader with compatible interests and schedule.

Peer leaders were recruited, interviewed and selected, primarily from the Health Sciences and Exercise Science undergraduate degree internship program. Students who were interested in being a peer leader but did not have internship credit hours required for their degree plan, could also apply to be considered, and were also interviewed before being selected. Peer leaders also had the opportunity to continue as leaders in the program if and when they transitioned into graduate school. Peer leaders were required to attend monthly training meetings, that explained and emphasized the boundaries of the

peer leader role, which included serving as a workout buddy and accountability partner, but did not include acting as a personal trainer or coach. Maintaining the appropriate scope of the peer buddy role was essential to both avoiding unnecessary liability for peer leaders, as well as respecting the domain of the personal trainers that were already employed at the campus recreation center. Although, peer leaders did their best to ensure each participant was engaged in physical activity safely, the peer leaders did not prescribe, control, or dictate what each physical activity session would entail. Training meetings also included strategies and resources (e.g. contacts to appropriately refer to counseling, cooking class schedules, campus emergency management plans, Pinterest and Instagram workout ideas, etc.) for finding different styles of workouts to share with participants, how to answer questions and guide participants to resources regarding nutrition and mental health concerns, and how to positively support participants of a wide range of diverse life experiences, fitness experience levels, and across the spectrum of physical and cognitive ability.

Measures

Programmatic Data

Participant programmatic data from the FB program were collected and analyzed to examine what the longitudinal experience of participants in the FB program was over the course of one semester.

Demographic data. Participant demographic data including age, gender identity, year in college, major, and race/ethnicity were collected from program registration questions (see Appendix A).

Program registration data. Responses to program registration questions beyond the demographic data provided a baseline for self-reported fitness level, primary reasons for sign-up, anticipated program benefits and previous challenges and barriers to engagement in consistent PA. These responses included both categorical and open-ended self-report.

Session data. Data from each individual FB session that each participant attended were collected and included the type of PA engaged in, the duration of PA, the total number of participants, from 2-4, in that particular session group, and emoji check-in/check-out sheets.

Emoji sheets. Before and after every FB session, program participants and peer leaders filled out an emoji check-in/check-out sheet (see Appendix B) that asked them to self-report how they felt upon arrival to the session, as well as, how they felt immediately following the session. Check-in/check-out response choices included emojis with the corresponding feeling words of happy, sad, frustrated, meh, stressed, excited, anxious, tired, connected, energized, confident, and relaxed. Participants circled as many emoji/feeling words as they perceived applied to them at the time of response.

**Basic Psychological Need Satisfaction
through Fitness Buddies Relationships**

The Basic Need Satisfaction in Relationships (BNSR) questionnaire measures the degree to which the three basic psychological needs of autonomy, competence and relatedness are satisfied through specific interpersonal relationships (La Guardia, Ryan, Couchman, & Deci, 2000). The BNSR consists of 9 items, of which there are three items each, forming a subscale for autonomy, competence and relatedness. The questions are answered for how true they are for the respondent, on a 7-point Likert scale, from 1 (not

true at all) to 7 (very true). BNS can then be measured as a total mean score, as well as mean scores on the three separate subscales. The original research that facilitated development of the BNSR, utilizing samples of undergraduate students, showed a three-factor model to yield the best results, with adequate subscale reliability (Cronbach's alpha score ranging 0.85-0.94) (La Guardia et al., 2000). The BNSR scale has been used to examine dynamics of close interpersonal relationships (best friends, roommates, parents and significant others/romantic partners) with variables such as attachment (La Guardia et al., 2000) and personal growth (Shenkman, 2018). Use of the BNSR scale in this study appears to be the first time it has been used to consider PA-based relationships, although study of relationships in the PA domain was previously called for by Standage and Emm (2014). For this study, the items were modified to reflect the relationships in the FB program, for example, "when I am with a fitness buddy I feel free to be who I am" and scored as mean subscale scores, along with total mean survey scores (see Appendix C for the entire modified survey).

Motives for Participation

The Motives for Physical Activities Measure-Revised (MPAM-R) is a 30-item scale that asks respondents to rate motives for participation in PA, sport and/or exercise. Motives for participation are reported on a 7-point Likert, from 1 (not at all true for me) to 7 (very true for me) (Ryan, Frederick, Lepes, Rubio, & Sheldon, 1997). Motives are scored across five motivational factors, including, interest/enjoyment (7-item subscale) ("Because it's fun"), competence (7-item subscale) ("Because I like the challenge"), appearance (6-item subscale) ("Because I want to improve my appearance"), social (5-item subscale) ("Because I want to be with my friends") and fitness (5-item subscale)

("Because I want to maintain my physical strength to live a healthy life"). The fitness subscale survey items refer to health and wellbeing factors, in addition to physical fitness.

Participants were prompted to "think of the primary physical activities you participated in through the FB program" when answering each item (see Appendix D for entire survey). Reliability and validity for the MPAM-R subscales have been previously established, showing good factor structure, with Cronbach's alpha scores ranging 0.78-0.92 (Ryan et al., 1997). Similar reliability was found when used in a sample of university students taking fitness-oriented PA classes (Sibley et al., 2013). Survey items were scored by calculating each participant's mean score for each of the five motivational subscales.

The measure has been used to understand why individuals continue, or discontinue, to engage in exercise, with greater adherence associated with motives based on competence, enjoyment and social interaction (Ryan et al., 1997). Exercise adherence has been reported to be positively associated with interest/enjoyment and degree of sport competitiveness (Frederick-Recascino & Schuster-Smith, 2003). Ryan and colleagues (1997) suggested that exercise is often a prescriptive and regimented form of PA due to increased sedentary and technology mediated lifestyles and a lack of natural physical challenge in our surrounding environment. As such, exercise is not always inherently enjoyable and individuals will often engage in it for more extrinsic reasons like appearance, body composition or perceived social expectations.

Narrative Interviews

Narrative inquiry drawing from an interpretive ontology and social constructionist epistemology was utilized to conduct narrative interviews to allow participants to "tell the

story of their experiences in the FB program" and to enhance the depth of understanding and interpretation of the self-reported quantitative data. These interviews sought to explore and honor each participants' unique journeys through the FB program and with one another, utilizing an unstructured and exploratory format to afford the participants freedom and space to tell their experiential stories (Sparkes & Smith, 2014). Depending on the nature of experiences shared by each participant, different open-ended follow-up questions were asked to elucidate elaboration and clarification. These questions focused on the nature of participants' experiences in the FB program to include, experiences of connection and/or true belonging, challenges encountered, motives for continued participation, and intention to continue in the program.

Participants were also asked to bring photos to the interview to share that were representative of their experiences in the FB program, as a part of a photo elicitation prompting method (Sparkes & Smith, 2014) and to encourage a rich and detailed narrative.

Participants met with the researcher in pairs, to tell their FB stories. Each pair included a peer leader and a program participant that met together regularly during the program to best represent the dynamics and relationships that formed within the FB program. The use of pairs was chosen because the focus of the study was on the social connections and relationships developed in a PA setting, and all program participants had consistently met with the same peer leader throughout the duration of their FB participation. Additionally, personal narratives often develop through socialization and as "relational beings… narratives and meanings are achieved within relationships" (Sparkes & Smith, 2014).

Narrative interviews were video recorded to capture the nuances, dynamics, and non-verbal communication of and between the participants, such as facial expressions and changes in body language as each pair recalled and retold their stories. This is valuable in any type of interview, as up to 93% of communication is non-verbal (Kluge & Glick, 2010). It was especially valuable for this study because of the exploratory focus on the relationships developed through the FB program.

Observational Notes

The researcher was embedded in the program as the faculty advisor of the FB program, while the research assistant was embedded in the program as the graduate student coordinator of the FB program throughout the semester of which data were collected. Both researcher and research assistant kept research notes with detailed observational notes and reflections on the FB program, including the nuances and dynamics of the interactions and relationships that developed between participants and peer leaders.

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Procedures

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Institutional Review Board

IRB approval from the University of Northern Colorado was received before participants were recruited and data were collected and used for the purposes of this study.

Recruitment

All students who were active in the FB program at the end of the target semester for data collection and had been actively participating in FB for at least one month prior to data collection (n=22) were recruited via email invitation (see Appendix E). Additional

follow-up with prospective participants happened though snowball sampling in which FB peer leaders would follow up with FB program participants regarding their interest in participating in this study after recruitment emails had been received. Once program participants and peer leaders expressed an interest in study participation, the researcher scheduled a time to meet with each pair of participants, a peer leader and a program participant, at the university campus recreation center at a time that was convenient for all of their respective schedules. Upon meeting, participants first completed informed consent forms to voluntarily participate in the present study and prior to any data being collected or analyzed. Participation included completion of surveys, narrative interviews, as well as inclusion of each participant's programmatic and demographic data for analysis.

Data Collection

Following provision of informed consent, participants first completed the BNSR and the MPAM-R surveys. The surveys included the participant's name so that individual survey data could be matched with corresponding programmatic and narrative interview data. Immediately following completion of the surveys, participants met in the same pairs, with the researcher for narrative interviews. Interviews were facilitated by the researcher at the university campus recreation center, in a private conference room, and lasted between 13 and 33 minutes.

Preliminary Data Analysis

Each individual participant's data were linked and then each participant was assigned a pseudonym for the remainder of the data analysis process. All statistical analyses were conducted using RStudio version 1.1.463 statistical software. Descriptive

analyses were run to summarize the overall demographic characteristics of participants. Cronbach's (1951) alpha was calculated to determine the degree to which the survey measures and subscales were consistent across participants in the study. Values equal to or greater than 0.70 were considered acceptable.

Primary Data Analysis

Details of each method of data analysis are subsequently described respective to each research question.

Research Question One

Linear regression analyses were employed to determine if the number of socially structured PA sessions attended predicted greater need satisfaction for each of the three basic psychological needs of autonomy, competence, or relatedness, and if the number of sessions attended predicted greater total basic psychological need satisfaction.

Research Question Two

Basic descriptive analyses were conducted based on the participants' mean subscale scores from the MPAM-R to better understand the types of motives reported for participation in a socially structured university PA program. The mean subscale scores of the sample were additionally rank ordered from highest to lowest in order to determine which motives were most prominent amongst the sample. Participants' primary reasons for signing up for the FB program as reported in program registration data were also described and presented in accordance with this question.

Research Question Three

A correlation matrix was utilized to explore the associations between social, fitness, appearance, competence and/or enjoyment motivational factors, and BNS of autonomy, competence and/or relatedness.

Research Question Four

To explore the PA session effect before, and after, PA sessions and across the semester, the check-in and check-out emoji feeling responses were first categorically coded by the researcher and research assistant as positive, negative, or mixed affect. Positive emoji feeling responses included happy, excited, connected, energized, confident, and relaxed. Negative feeling responses include sad, frustrated, tired, meh, stressed, and anxious. If during a check-in/check-out a participant had only selected one or more positive emoji responses, that check-in/check-out was coded as positive. Similarly, if during a check-in/check-out a participant had only selected one or more negative emoji responses, that check-in/check-out was coded as negative. If during a check-in/check-out a participant had selected two or more emoji responses that included positive and negative emoji responses, that check-in/check-out was coded as mixed. For example, if a participant selected tired, stressed and anxious at check-in and selected stressed, energized and connected at check-out, that session would be coded as a negative check-in and mixed check-out. After initial coding, results were cross checked between the researcher and research assistant to correct any discrepancies that had occurred, all of which were due to human error (e.g. missing an emoji response across the spreadsheet rows) when manually coding the check-in/check-out data.

After categorical coding of each check-in/check-out emoji/feeling word response, each code was assigned a representative number in order to graphically represent the data. Negative affect was assigned a 1, mixed affect was assigned a 2, and positive affect was assigned a 3. Each participant's responses were graphically represented using single subject technique (Thomas, Silverman, & Nelson, 2015), with each check-in considered a baseline measure and each check-out considered a treatment measure.

Research Questions Five and Six

Paired interviews were analyzed using thematic narrative analysis (Riessman, 2008; Sparkes & Smith, 2014). In the narrative research process, the researchers are the primary instrument of analyses. Therefore, the researcher and graduate research assistant brought a particular worldview shaped by our personal life experiences with which we heard, saw and synthesized the narrative data. As the faculty advisor and graduate student coordinator of the FB program, we were both extensively involved in the development and implementation of the FB program, including the shared value that the program was inclusive and welcoming to students of all abilities and backgrounds. As a faculty member and graduate student in the field of health and wellness promotion, we brought to the analysis preexisting values for PA and health lifestyle behaviors, as well as a shared belief that social connection and experiences of belonging have potential to positively impact students' day to day experiences. The researcher is committed to and values student health and wellbeing and listened to the paired stories as a researcher, as well as a mentor, advisor and educator with previously established mentor-mentee relationships with the peer leaders. The graduate student research assistant is dedicated to and values improving student health and wellness because of her own ongoing salient

experiences of juggling school, work and family responsibilities. The research assistant listened to the paired stories as a researcher, as well as a peer mentor and friend, with previously established relationships with several of the participants through her program coordinator and peer leader roles. We positioned our previous relationships with participants as a strength that enhanced our understanding of their journeys over the semester, but we suspended any knowledge of participants' experiences that they chose not to share during their interviews. Together, we listened and synthesized from a constructivist framework and valued the depth of experiences shared by participants retelling their shared journey with one another; a process that elucidated the perceived meaning of a participant's experiences not always afforded from survey measures.

Analysis began with immersion into the video interview data, in which the stories being told were repeatedly watched and listened to over several weeks. The paired interviews were also transcribed and the storied accounts were repeatedly read. After immersion into each pair's interview, and considering their story as a whole, initial thoughts and impressions, and powerful, impactful, and repetitive words and phrases were made note of. We also noted critical events that may have influenced the trajectory and/or outcome of the experiences (Sparkes & Smith, 2014). Next, emerging themes were generated by listening for common threads, patterns and/or metaphors that ran through each participant's and pair's story. When patterns and metaphors within each pair's story were considered, the question, "if I was to title this pair's experience, what might that title be?" was reflected upon.

The researcher and researcher assistant completed these initial analysis steps separately and then met together and compared these emerging themes, metaphors, and

story titles, for similarities, differences, and overlaps in what was gleaned from the stories told. After collaboration between the researcher and graduate researcher assistant, agreed upon themes for each pair's interview were analyzed for connections, patterns, and preliminary connections to theory.

The resulting thematic narratives that ran across multiple pairs of participants, were then written in representative data poems, which are poems consisting of participants' exact words taken directly from interview transcripts (Lahman et al., 2010). After several weeks were spent listening to and immersing in the narrative interview data, the choice of poetic data representation was chosen to structure and present the participants' collective hours of stories in a way that invited the reader to hear and feel the nuanced dynamics of each paired interview. Each poem was intentionally crafted to offer the reader the opportunity to hear and take notice of the subtle interpersonal interactions and nonverbal expressions that can be seen and heard in the paired interview videos, as well as the pauses, repetitions, and points of emphases within participants' storied journeys (Sparkes & Smith, 2014). Poetic presentation of interviews has been suggested to improve the accuracy of the representation of participants' thoughts and experiences when compared to selecting representative quotes that may get somewhat removed from the original context of thoughts (Sparkes & Douglas, 2007). Research poetry creates a new dimension of understanding, "illuminates the wholeness and interconnectedness of thoughts," and can foster a powerful and sometimes emotional connection to the data based on shared human experiences (Sparkes & Douglas, 2007, p.171). These poems are accompanied by a description of the significance of each.

CHAPTER IV

RESULTS

The purpose of this study was to explore experiences of belonging, BNS in PA-based social relationships and motives to participate in a socially structured PA program among emerging adults on a university campus. The results of the quantitative and qualitative analyses described in this chapter include descriptive analyses, reliability analyses and primary analyses presented with respect to and in order of each of the six research questions.

Preliminary Analysis

Descriptive analyses demonstrated that the demographics of the sample were comparable, and representative, of the university student population where data were collected. The mean age of the sample was 23.39 years, while the mean age of the university population was 24.6 years. The sample participants were majority white (64.7%) and identified as female (52.9%), while similarly the university student population was 63.5% white and 52.6% female (see Table 2).

Table 2

Distribution of Participants by Race/Ethnicity and Gender

Gender	Race/Ethnicity				
	Black	Hispanic	White	Hispanic/White	Unknown
Female	0	1	6	1	1
Male	2	0	5	1	0

Prior Physical Activity Experience

Descriptive analyses of participants' FB program registration data provided basic baseline self-report data on previous PA experiences. Participants were asked to categorize their prior fitness experience as "beginner," "intermediate" or "experienced." Participants' self-reported fitness experience levels were 53% intermediate, followed by the 23.5% beginner and 23.5% experienced. Participants also self-reported the types of challenges they had previously experienced when trying to engage in consistent PA. Participants could select multiple answers from five answer choices. The top reported challenge to staying physically active, reported by 59% of participants, was "didn't have anyone to be active with or keep me accountable for my goals," followed by 53% of participants reporting they previously "didn't have enough time," while 35.3% of participants "didn't know what to do to be active or get in shape," and 11.8% of participants "hadn't found activities [they] enjoyed," and "didn't have a gym to go to" (see Table 3).

Table 3

Participants' Previous Challenge with Physical Activity

Previous Challenges	# of participants	% of sample
Didn't have anyone to be active with or keep me accountable for my goals	10	59
Didn't have enough time	9	53
Didn't know what to do to be active or get in shape	6	35.3
Hadn't found activities I enjoyed	2	11.8
Didn't have a gym to go to	2	11.8

Reliabilities

Reliability analyses were conducted by calculating Cronbach's (1951) alpha to determine the degree to which items of the survey measures were consistent across participants in the study. Values equal to or greater than .70 for each subscale were considered acceptable (Bland & Altman, 1997).

Motives for Physical Activities Measure-Revised. Reliability analyses for the items comprising each of the five subscales of the MPAM-R demonstrated acceptable reliability of each subscale, after removing one item with low reliability (see Table 4). Initial alpha values were 0.81 for the competence subscale, 0.82 for the interest/enjoyment subscale, 0.80 for the appearance subscale, 0.92 for the fitness subscale, and 0.66 for the social subscale. Item 28, which referred to an external controlled motive ("Because my friends want me to") was removed from the social subscale to improve reliability, and the recalculated alpha was 0.70 for the social subscale.

Table 4

MPAM-R Reliability Analyses

	MPAM-R Scale	Competence	Interest/ Enjoyment	Appearance	Fitness	Social
Cronbach's α	0.90	0.81	0.82	0.80	0.92	0.70

Basic Need Satisfaction in Relationships. Reliability analyses for the items comprising each of the three subscales of the BNSR were conducted after reverse coding the three negatively worded items. Initial alpha values were -0.11 for the autonomy subscale, 0.28 for the competence subscale, and 0 for the relatedness subscale. There were not any items in the autonomy subscale that could be removed to substantially

improve the reliability. Item 4 from the competence subscale and item 6 from the

relatedness subscale were removed to improve reliability, and the recalculated alpha

values were 0.71 for the competence subscale and 0.53 for the relatedness subscale. The

composite alpha calculated for the 4 remaining items of the competence and relatedness

subscales was 0.72. The reliability analyses after the aforementioned adjustments are

displayed in Table 5.

Table 5

BNSR Reliability Analyses

	BNSR Competence and Relatedness (4 items)	Autonomy (3 items)	Competence (2 items)	Relatedness (2 items)
Cronbach's α	0.72	-0.11	0.71	0.53

Primary Data Analysis

Research Question One

Linear regression analyses were conducted to determine if greater need

satisfaction of competence or relatedness, through PA-based social relationships was

associated with a greater number of socially structured PA sessions attended. Linear

regression analysis was not conducted using the autonomy subscale, due to poor

reliability. The number of PA sessions attended was a significant predictor of competence

need satisfaction ($p < 0.05$), while the result for relatedness need satisfaction was not

significant (see Table 6). Descriptively, the total BNSR mean score (M=6.27, SD=0.54)

for the sample was comparable to previously published BNSR means scores among

university students' BNSR with a best friend (La Guardia et al., 2000). The autonomy

need satisfaction mean sample score was 6.53 (SD= 0.59), the competence need

satisfaction mean sample score was 6.55 (SD= 0.49), and the relatedness need

satisfaction mean sample score was 5.73 (SD= 0.86) (see Table 7). The total BNSR mean

score of the study sample was comparable to previously published results of interpersonal

relationships of university students, while also demonstrated poor reliability. This may be

due in part, to the relatively small number of items on the measure distributed across an

exceptionally small sample size.

Table 6

BNSR Regression Analyses

DV ~ # of PA Sessions	Adjusted R^2	F	Sig. p-value	Constant
Competence	0.28	7.12	0.02	5.60
Relatedness	0.05	1.82	0.20	4.62

Table 7

BNSR Descriptive Analyses

Autonomy	Competence	Relatedness	BNSR
M=6.53	M= 6.55	M= 5.73	M=6.27
SD= 0.59	SD= 0.49	SD= 0.86	SD=0.54

Research Question Two

With respect to the second research question, descriptive analyses of MPAM-R

subscale means were conducted to determine the level of participation motives study

participants self-reported (see Table 8). These descriptive results were also compared to

the programmatic registration question that asked participants to report their primary

reason for signing up for the FB program. Participants' highest mean motivational

subscale scores on the MPAM-R were for fitness motives (M=6.21, SD=1.38), followed

by enjoyment motives (M=5.66, SD=1.07), competence motives (M=5.59, SD=1.09),

appearance motives (M=5.23, SD=1.41), and social motives (M=4.71, SD=1.43).

Comparatively, when registering for the FB program and asked to select their primary

reason for signing up among the choices, fitness, health, appearance, competence, social

and enjoyment, the majority of participants (not including peer leaders, n=7) reported

"health: to be healthier and feel better" (n=4, 23.5%), followed by "fitness: to get in

shape or stay in shape" (n=3, 17.6%), "appearance: to change body composition" (n=2,

11.8%), as well as one participant writing in a combination of health, fitness and

appearance. Therefore, fitness and health were the primary reasons why the majority of

participants registered for the FB program and remained the strongest participation

motive at the time of data collection (e.g. 4-15 weeks after program registration).

Table 8

Fitness Buddies Program Reasons for Sign-up and Participation Motives

FB Program Primary Reason for Sign-up	# of participants	% of sample	Participation Motives (MPAM-R)	Sample subscale means	SD
Intern/volunteer	7	41	Fitness	6.21	1.38
Health	4	23.5	Enjoyment	5.66	1.07
Fitness	3	17.6	Competence	5.59	1.09
Appearance	2	11.8	Appearance	5.23	1.41
Health, Fitness & Appearance	1	5.8	Social	4.71	1.43

Research Question Three

The third research question was evaluated by conducting correlations to determine

if social, fitness, appearance, competence and/or enjoyment motives were associated with

BNS of autonomy, competence and/or relatedness. The resulting correlation matrix is displayed in Table 9. Between the subscales of the BNSR and MPAM-R measures, fitness participation motives were significantly correlated with autonomy need satisfaction (r=0.54, p <0.05). Across subscales of the MPAM-R, interest/enjoyment motives were significantly correlated competence motives (r=0.66, p<0.01). Social motives were significantly correlated with interest/enjoyment motives (r=0.7, p<0.01), competence motives (r=0.65, p<0.01) and fitness motives (r=0.58, p<.05). Fitness motives were significantly correlated with appearance motives (r=0.73, p<0.001). For subscales of the BNSR, relatedness need satisfaction was significantly correlated with both autonomy need satisfaction (r=0.65, p<0.01) and competence need satisfaction (r=0.55, p<0.05).

Table 9

Correlation Matrix of BNSR and MPAM-R Subscales

	Interest/ Enjoyment	Competence	Fitness	Appearance	Social	Autonomy BNS	Competence BNS	Relatedness BNS
Interest/ Enjoyment	1							
Competence	0.66**	1						
Fitness	0.33	0.47	1					
Appearance	-0.05	0.02	0.73***	1				
Social Scale	0.7**	0.65**	0.58*	0.17	1			
Autonomy BNS	0	-0.05	0.54*	0.45	0.17	1		
Competence BNS	0.31	-0.08	-0.15	-0.37	0.27	0.33	1	
Relatedness BNS	0.21	-0.14	0.38	0.33	0.38	0.65**	0.55*	1

Note. BNS = basic need satisfaction, * = p <0.05, ** = p <0.01, *** = p <0.001

Research Question Four

Descriptive analyses and graphic representations were conducted using a single subject technique to observe the variation in situational affect before, and after, each PA session of participants across the semester, and the sample as a whole, as demonstrated through the self-reported emoji feeling response check-in/check-out data. Emoji response data were analyzed from 155 total sessions from 15 participants. Two study participants did not track emoji data over the semester, but participated in all other data collection, and were therefore were not included in these analyses.

Total frequencies of each emoji response choice at all check-ins and all check-outs were summed and then converted to a percentage of total sessions (see Table 10). The percentage of sessions that each emoji response was chosen at check-in and check-out is graphically represented in Figure 2. The tired emoji/feeling word response was differentially coded as a negative emoji feeling response if chosen before a session, but coded as a positive emoji feeling response if reported after a session. This differentiation was decided upon after narrative interview data were collected, and participants consistently spoke about the 'good tired' feeling after a challenging workout session. A positive PA session effect for the sample can be seen in the cumulative reduction of stress, anxiety and tiredness, and the increase in happiness, confidence, energy, and social connection (see Table 10 and Figure 2).

Table 10

Emoji Response Session Check-ins and Check-outs

Emoji Feeling Response	# of Check-ins	% of Session Check-ins	# of Check-outs	% of Session Check-outs
Happy	49	31.61	88	56.77
Sad	11	7.10	4	2.58
Frustrated	9	5.81	1	0.65
Meh	15	9.68	3	1.94
Stressed	48	30.97	20	12.90
Excited	40	25.81	39	25.16
Anxious	27	17.42	5	3.23
Tired	82	52.90	38	24.52
Connected	10	6.45	49	31.61
Energized	25	16.13	63	40.65
Confident	27	17.42	53	34.19
Relaxed	27	17.42	33	21.29
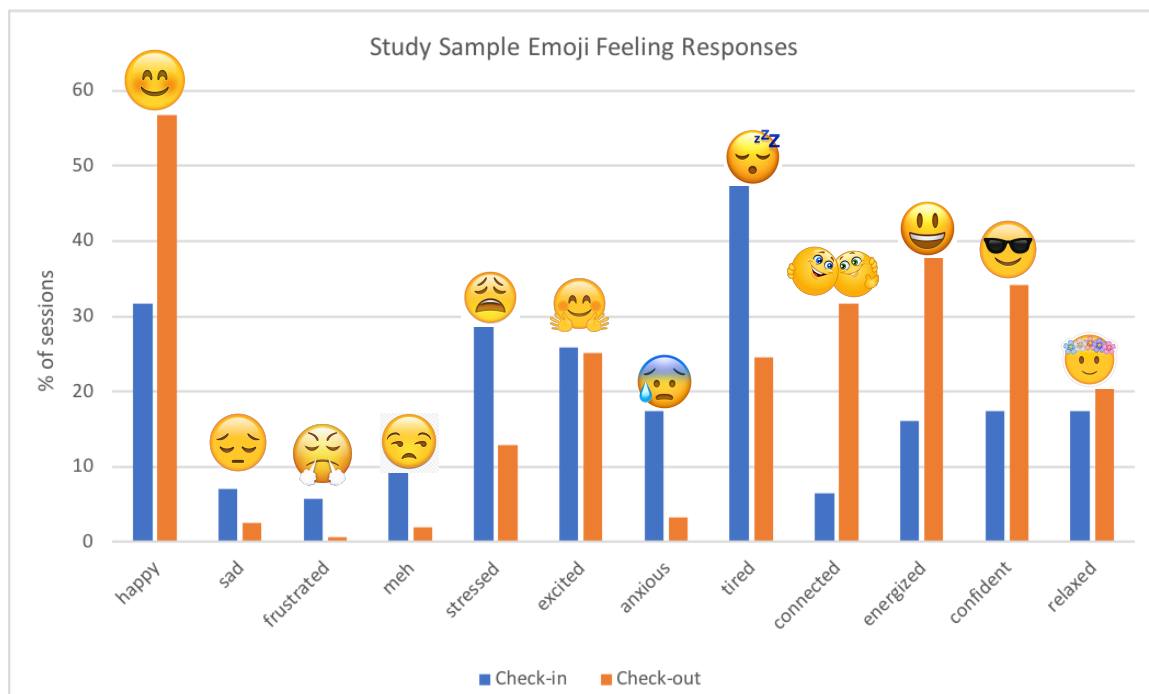
Figure 2. Percentage of Sessions for Each Emoji Feeling Response

The graphic representation of the coded emoji data for each participant visually demonstrates that the majority of FB PA sessions either improved situational affect or maintained a mixed affect. Figures 3-4 display two individual participant examples; one participant with a moderate number of PA sessions, and one participant with a high number of PA sessions. The remaining individual participant graphs (n=13) can be found in Appendix F. The aggregate means of each participant's check-in and check-out emoji responses (positive=3, mixed=2, negative=1) graphed together as a sample reveal a clear representation of the positive change FB PA sessions had on participants' self-reported emoji feeling responses (see Figure 5).
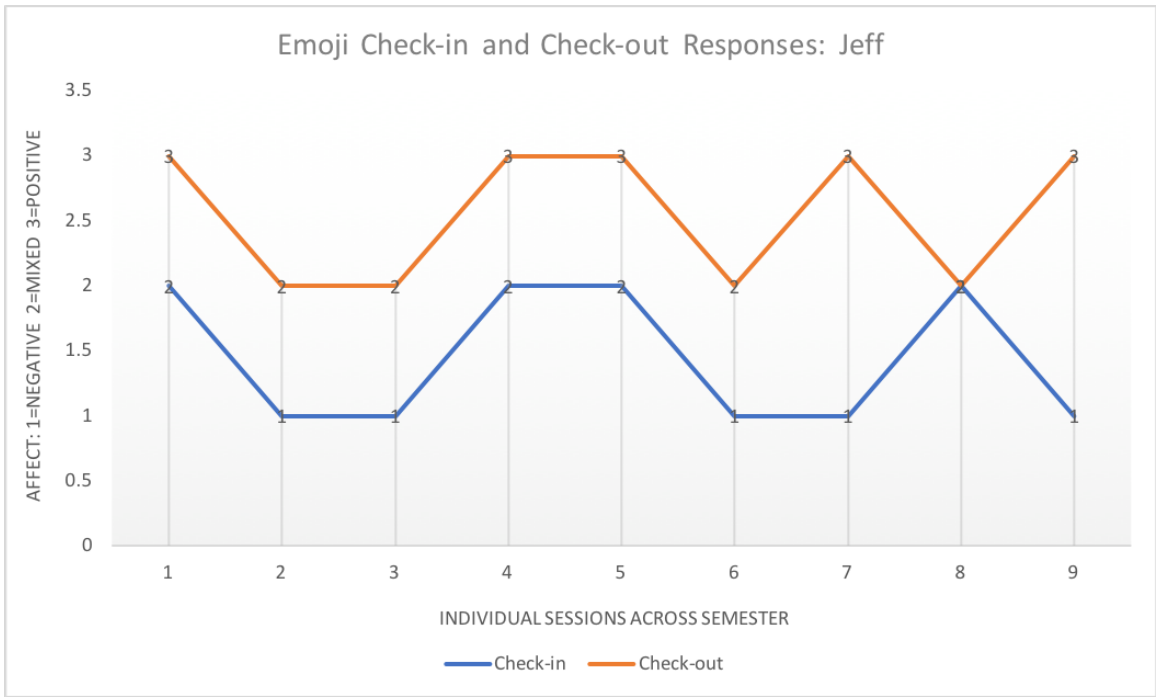
Figure 3. Emoji Check-in and Check-out Participant Example 1
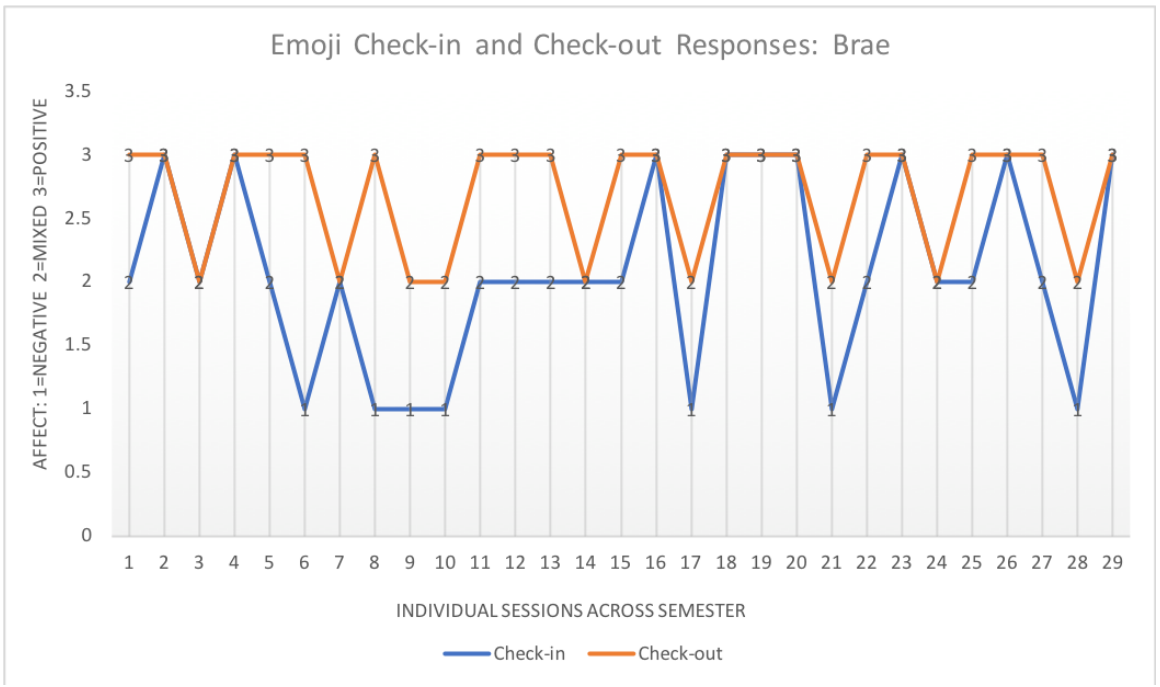
Figure 4. Emoji Check-in and Check-out Participant Example 2
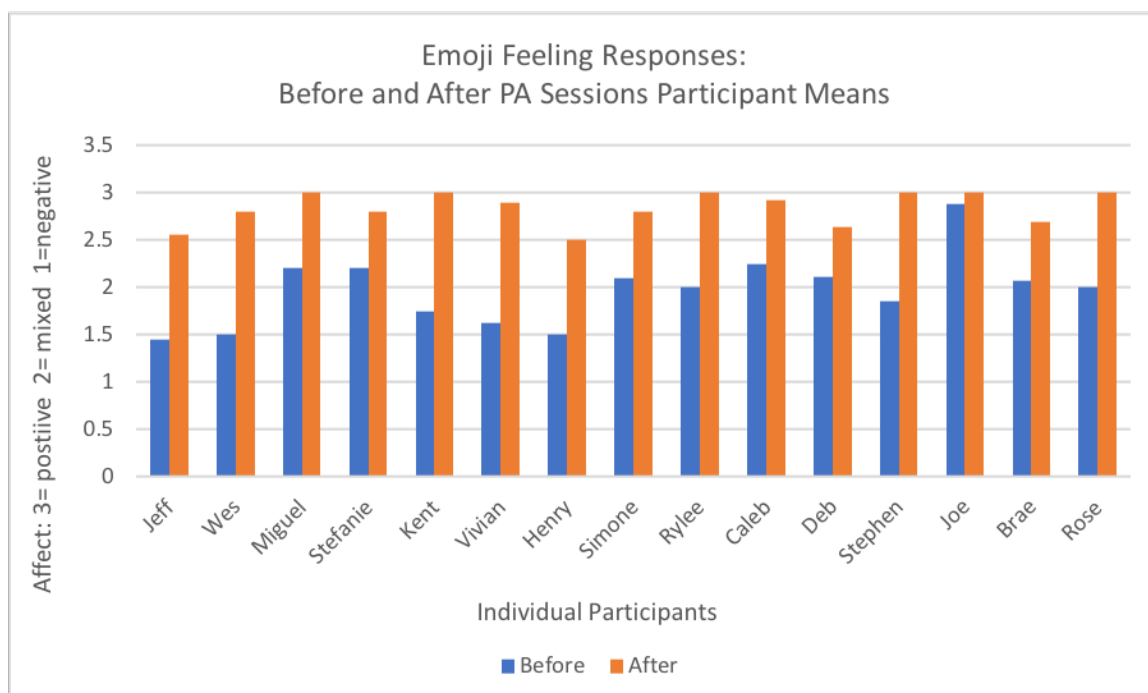
Figure 5. Emoji Check-in and Check-out Participants' Coded Response Means

Research Questions Five and Six

The final two research questions were analyzed using narrative thematic analysis

and the resulting themes, description of the significance of each, and representative

poems are presented below (Sparkes & Smith, 2014). Poems were constructed using

participants' exact words and statements shared during paired interviews. Any words or

non-verbal expressions presented in square brackets, were included by the researcher to

succinctly enhance the understanding of, or clarify the context of, the participants'

words/narratives, including connecting thoughts that spread across several statements,

and demonstrating non-verbal interactions, body language and affect expressed during

video paired interviews. Any words presented in bolded font, represent a word that the

participant strongly emphasized with nonverbal gestures and body language.

Research question five. The following themes emerged from the data to

represent the story of participants' journeys into, and through, the FB program. These six

themes include: before fitness buddies, you push me to get better, shifting gender and ability biases, unlikely friends with enduring motivation, finding joy in sharing the fitness journey, and now I feel better and I want to share that forward. These themes illuminate the ways in which the FB program provided participants access to support and resources that anecdotally, improved their situational affect, overall mental health, self-confidence, motivation and competence to be consistently physically active, likelihood to pursue optimal PA challenges, and successful engagement with academic coursework.

   Before fitness buddies. Participants consistently described the struggles and challenges they had experienced with poor physical and mental health, balancing their multiple role responsibilities, and lacking peer support and connection on campus, prior to joining the FB program. These challenges seemed to be significantly influential in each participant's decision to register for the FB program.

Before, I…

You can't make anybody come
I don't want to do this, I just want to go back to sleep
I don't have a reason to come
I didn't see any kind of improvement
Laying around all morning, those days, depressing to be honest

I've had depression in the past and anxiety in the past
I've been super stressed this week
My life has a lot of stress
I was definitely more anxious
I've had a rough morning
Sometimes I just want to come in and punch something

I really do feel like out of whack
I get really tired, sluggish, foggy, groggy
I feel like an old man most of the time
It takes all of my energy just to get through the day

I had insomnia
Having pain carrying around her backpack all the time

I have scoliosis
I have a degenerating disc in my back

My family is prone to diseases
Diabetes and heart problems
I have a family full of diabetics and they all eat crappy
They never lived a life where they could take pride in themselves at all

I only had 45 minutes
Get home to the kids
Mom life
The baby always wakes up in the middle of the night
My husband came home from deployment

I'm a RA [resident assistant], that's the stress
I have work and school
And trying to fit working out back into that
I'm a computer geek, I like to play video games

I had four tests in the same week
I'm going to take six classes
I've been studying so much
I can do it after my classes

All my classes just decided to throw everything at me at one time
I'm taking some pretty hard classes
You get knocked down with it
So, it's like... **I can't do anything**

I didn't want to look in the mirror
It was like…**ohhh too many mirrors**
I actually didn't have the confidence in myself
I want to be attractive and I want to be healthy
I always wanted to be a superhero, so I figure [shrug]

I always worked out all my life so that I could be skinny
I stopped working out because
I couldn't find a [healthy] reason to work out
I was in track in high school, I've always been skinny
But I haven't done much exercising since, for a couple of years

One of those New Year's resolution things
I wanted to lose weight
I've been gaining weight
I'm working on losing weight

I was too scared, ya' mean?
Everybody looked like they knew what they were doing
I didn't know what I was doing
So, I was like crap, I'm not doing this

I was **terrified** because personally, I'm not a social person
I don't call people friends
It's really hard for me to do so
I'm definitely introverted [laughing]

I don't really have a lot of other friends on campus [laughs]
I didn't know a single person
I moved from Oklahoma before that
I didn't know a lot of people in this town

I don't really talk to many people on campus, honestly
I don't really strike up a conversation with some random person I see at the library
It can be awkward to meet someone new
[In] a really boring class, I would [not] even talk to you
I would just sulk in the corner

Usually I just go to my classes and like stay in the back
I'm there to do my work, I'm almost 27, I'm 24
I just assume that everyone else is like 18
I'm probably like one of the older people in the classroom
I don't even think that I will have anything in common…even though I'm sure I do

     You push me to get better. In the stories shared, participants spoke strongly about being supported by one another to both develop and improve their physical competence in a fitness and recreation setting. Regardless if participants entered the program as beginners, or were experienced in the gym, the support of a FB allowed participants to feel encouraged to push themselves to work a little bit harder during their session then they would have alone, and allowed participants to feel comfortable to try new and challenging activities and exercises. Working intentionally on physical fitness in a supported environment with a knowledgeable peer leader, was also reported to have helped a few participants gain functional strength that reduced chronic pain and fatigue in their daily activities.

You Push Me to Do Better, to Get Better

I can work out by myself
I'll cut my workouts short, I'll start feeling lazy
Sometimes I'll get into a little slump
I just get bored

He was scared, and didn't know what to…
Kind of self-conscious about doing things
So, I just told him that, it's a totally relaxed atmosphere
They help you with your goals and you work out together
That it's really encouraging, and there is no…you know…**you suck at this**

By myself I would probably hurt myself
I want to start exercising, but I was kind of unsure of what to do
I had absolutely zero clue on anything in the gym
I have a spotter at least
If you are doing something wrong, they can help correct you

I have someone who knows a little more about it than I do
He's really good at teaching me how to use the equipment around here
Instead of doing the same stuff I usually do
I've been doing a lot of the same things for a year

He's really good at teaching me how to use the equipment around here
I've gotten a lot of new exercises from him
I would've never done some of the exercises that we've done together
I've learned quite a bit from you too

It's fun, because I'll switch things up
That'll kind of like, will fit for both of us
It's not just the same thing over and over, it's different
It's good to change things up and learn something new

When I work out by myself
Probably a lot more solemn when I'm by myself, just indifferent or frowning
But… oh this is actually fun when I'm with somebody
Just the person being there too
Just makes the workout a lot more enjoyable

It helps having someone else be there to push you
I get a lot more out of the workouts
It helps me challenge myself because I've been trying to get stronger
You're pushing yourself, I guess

Working out together, we're kind of like, going through this challenge
But it's not like [academic] test kind of challenge
It's sort of like trying to overcome this physical challenge
We both worked on some stuff that was kind of uncomfortable for us
But realized that we could get through it

Come on you can do it!
One more! Two more!
I know you can do more than that
I'm going to help you with these last two
You got this!

I feel like, you push me more?
I feel like you push me too.
I guess we're, we're connected [laughs]
You're there to better yourself
But at the same time, you want to have fun while doing it

You know you're not going to regret it afterwards
I can do this, I can do this
Then once I'm there, doin' it,
I want to lift more, I want to lift harder
I don't know it's like you're using the same weights but you're not as close to failure

He helps me actually get it done with the intensity that you're supposed to do it with
If I'm struggling with a rep, he's like you got it, you can finish it
It's like, oh yeah now, I do got it!
Because it's like… well, if he can do it, I can do it!

And for me it's just as motivating
So, it helped with my self confidence in other areas too
And then when I'm done, I'm tired, a good tired
You never regret a workout

I did it, but I was so thankful for her because you know me
I'm not a runner
She was going to go run the mile
I said, I'll go walk with you…
I'll go WALK with you?! And then you ran the mile without stopping!
I did! And I never thought that I would be able to do that!

I'm always wowed by her persistence
Because no matter what
If something was hard for you in your first set
Then you'll go for your second set
So, she doesn't give up and that's really awesome!

Even once a week working out with someone
Kinda helps, I don't know
Recharge
I personally enjoy the days that I meet up with him better
Because it's a better workout

My biggest thing coming in here was to help myself strengthen my back
We've done a lot of exercises that have like tremendously helped
And I don't have that much pain anymore…so for me it's been good
You don't have to… you don't have to be a pro or anything

We have to…mentally really think about each specific exercise
Think about how it can be modified before we use it
I always think about ok, how can I explain this in a way that will help his back
Even though we are not working on specific back muscles
So, it's helped me grow in my understanding of the body

I'm seeing more results, hey, look, I can do it!
I've got in a lot better shape than I ever have been
I'm kind of gettin' stronger, my muscles are gettin' stronger
We're able to lift more, we're able to accomplish more
And we can tell, I can tell that we're both getting incredibly strong
So today was a really good day

Every time I go to the gym, I feel like I'm getting better, every time
It's really good to kind of be able to recognize that progress
Doing this now, I'm feeling like a huge difference
I actually feel physically different, and better in a good way
And it is more noticeable when I am not doing it

I don't even realize how many hours it's been
Because I'm just meeting up with my fitness buddies
I think because sometimes people might just need
A good fitness person to come in to keep them motivated

Shifting gender and ability biases. Several FB pairs were mix gendered and, in each case, individuals held preconceived notions about the buddy who was the opposite gender as themselves before beginning sessions with one another. A few FB pairs also differed from one another in their physical abilities and challenges experienced before beginning the program. In each case, as the semester progressed, the anticipated biases

about what the unknown buddy would be like to interact with and what the buddy's

physical abilities would be, were shifted significantly through the development of each

pair's relationship.

You Weren't Who I Expected You to Be

I just wanted a female to workout with, then I got the text
'Hey, it's Joe'…Ohhhh perfect [sarcasm]
In the army for like 4 years, always around guys
Always worked out together, which I actually hated
Okay…I'll just do this

When I was first told I would be meeting with a female
I thought I would be kind of…
Like, not babying you
But not working to my fullest extent

I learned I was completely wrong
It doesn't matter your sex
[Now] I genuinely enjoy working out with [her]
We were a good pair for each other

At first, I thought it was going to be a bodybuilding kind of relationship
I thought she was going to be telling me what to do
But then she asked me what [I wanted] to do
She can't tell me what to do or not to do, so it's more like a friendship
From her face, I could tell that she really **cares**, you know?

He's my only male fitness buddy
I do like that he doesn't second guess what I'm saying, because I'm a female
Unfortunately I did have that pre-conceived notion that if I tell him how to do a deadlift
Would he actually believe I knew what I was doing?
Thankfully he does trust me, which is a good thing

I've never had [laugh] a fitness buddy like you before
The first time that we met, he didn't bring tennis shoes
So, we had to improvise, we went and we did rock climbing that day
I was like…oh my gosh, we can go over there and they don't require shoes!

Helped me appreciate too, how good people have it when they don't have scoliosis
I've never had to think like that before, and so I appreciate that
It's helped me realize to not judge someone, a book by his or her cover
And to get to know all different types of people

Unlikely friends with enduring motivation. Participants found that their FB was a source of motivation that kept them consistent when the semester became busy and chaotic, or they hit a slump in their fitness journey. The ultimate factor that got them out of bed or off the couch on days of low motivation was their FB waiting for them. Having a FB made participants feel comfortable to come into the campus recreation center, as many had rarely, if ever, used the facility alone. The FB program allowed participants to meet and develop relationships with peers they never would have connected with otherwise. The conversations that developed over time during the FB sessions went a lot deeper than the surface level small talk experienced in classrooms and elsewhere on campus. The connections forged during the semester in the FB program allowed participants to develop a deeper sense of relatedness, as several participants explained they didn't really have any other friends or social connections on campus to speak of.

Unlikely Friends, Enduring Motivation

I never really came to this gym
I never came here either
I was really scared to come to the Rec Center
I would only come if I had someone to come with me

I came like maybe twice, I realized
I need more motivation to go, I'll find an excuse to not come
Somebody there that motivates you to be there
It gets you going, it gets you off the couch
I don't really come here without a fitness buddy

We are both in the program
We have a purpose
We have an objective
At least with fitness buddies, you start out with a commonality between each other
So, there is already that breaking point

We didn't connect on the first day or two,
She's not someone I would seek out and make like a really solid friendship
But second or third session, we started really connecting

I feel like just because we are at different places in our lives we have really bonded
I like working out with somebody, nice having that little community

You can only talk about working out so much
It's not like you come here to talk about your muscles
So, we just started talking about other things
Hey, let's get talking because we are doing stuff together
We just have conversations about pretty much anything

Our personal lives
Our weekends
Our families
Thanksgiving
A lot about food too!

It opens up the opportunity to ask questions like,
How was your day? How was your week?
It's really free! I don't feel restricted by anything we talk about
We get to share excitements of what's happening this week
I can't wait to tell her about this
And we are talking anyways, so playlists don't matter

A stress reliever, I get to decompress
You are actually communicating with somebody
And not isolating yourself
I'm realizing as I get older I like talking to people

Just having somebody there
It is an awesome opportunity to meet with other students
Alike or unalike
Escape from the everyday stresses of life in a healthy manner

We've gotten closer
You've taught me a lot about politics
I learned so much about her growing up
Things that I probably wouldn't have

We've talked about certain things that I've never had to experience
We talked about your daughter
Especially because I have a little bit of baby fever
So, I'm living vicariously through her right now

You can connect more, [because] we're working together
We are together, we are both enjoying the activity
That helps to build like the relationship that we have
If we were both doing something that well…I hated… [both laugh]

Companionship with healthy goals
Exercise with a side of friendliness
It's really a workout…with a friend
You're just connecting with people
I feel like we have a friendship, so it's been really nice!
A fitness buddy is really like a friendship

Awww, he's your friend
Yes, but don't tell anyone [so much laughing]
No don't take offense [touches his arm]
I really do have to say that I really do feel like I have built a friendship

She's a **friend** of mine now
[She] was very kind to me
Just one of the most wonderful people I know
She's just always there for me
That is what it means to me

It comes down to motivation
[My motivation is] a little bit different
Just because I have that friendship developed now
Even on the day I don't have motivation, I'll still come meet a fitness buddy
Even when I'm not motivated, it just goes smoothly

I think it's not centered around tests, or school, or studying, or a subject
Talk about what's going on, you know, in our lives
We don't have the same classes
We can kinda talk about it, relieve our stress through working out
For me, that's a better relationship than our school friends

You have the option to go beyond a semester-by-semester basis
I feel like this has been better, because this was more regular
I kinda like it because it has some distance from all the other craziness in life
Kind of just more normal human stuff, I guess?

Given me an opportunity to meet people that I never would have
I would have never known you
Each fitness buddy brings something a little different to the table
Getting to know people from different areas of study
Building that whole network

I see them on campus, oh hey, I know you!
It's always just nice connecting
It's like a really nice break to
Go and have social time

Fitness Buddies means to me community
I may not have all the same common interests with my partners
We do have one thing in common
The need for human interaction to thrive in this world

Finding joy in sharing the fitness journey. Participants described a dynamic in

their FB sessions in which they struck a careful balance in supporting one another's

choice to embark on their respective fitness journeys. They developed a shared

responsibility for deciding the activities and duration for each session. This reduced the

pressure for one person to choose the program or workout for the day, as well as left

enough flexibility for plans to fluctuate with moods, tests, and even the weather.

Participants described how much more fun and enjoyable their FB sessions were

compared to solo workouts and the value of both individuals in each session entering the

FB relationship dynamic with common goals and the shared purpose of choosing to better

themselves.

It's Better Together

I saw there was a "fitness buddy" program and I was like YES!
That's exactly what I need
Start a routine
Meet your goals

I don't really like working out [both laugh]
I've come to admit that to myself
But I do want to, really want to help myself
And this is the best way to do it
Fitness buddies is a really freaking good starting point!

We meet, spend a little bit of time catching up
We do the clipboard and get our stuff situated
What are we working on today?
Coming up with a workout together
We both kinda figure out what we want to do for the day
You have somebody to talk to so that you walk in with a plan

A lot of times we'll just do pretty impromptu stuff
We'll kinda… agree where to start
One day he'll lead for that day
And then the next day we meet, I'll lead
So, hey it's a cardio day, do you want to be inside or go for a walk?
Like sometimes I will say to [her] that I need to do a stress run, I need to run!

We looked at each other, Legs? Legs!
What about legs?
It just depends, how do you feel?
What do you want to do?
…ehhhhh I don't wanna lift
Alright cool, let's do something else
Okay, let's do it!

They just want somebody to kinda, do it with them on their journey
It's a lot easier for me because now
I actually have a partner to workout with
You want to find people maybe with similar interests
All the people that I've exercised with…they all have the goal of getting in shape

I feel like most of the time we are on the same motivational level
So, it's like good encouragement
I have to do it, she has to do it…it's like yeah!
[pumps fists] We feel so pumped up!
So, I think that's good, to feed off each other

You are kind of sharing this passion
You like to be with people who like to be here
You meet people who you didn't know enjoy it
Somebody actually motivates you to get to the gym

You get a workout partner
There's no pressure to do anything specific
You just have fun, be healthy
In an hour…it's going to feel great
And it gives me time to myself

We are both in like really good moods
Bouncing ideas off of each other
Throwing jokes, dropping jokes, like capital gains
High-fiving each other
We work up a good sweat
When I go by myself now it's…kinda boring…compared to with a fitness buddy

Motivation that I think I needed
At least twice a week it gets me up off my butt
I thought I could get some school credit for it
I did initially start off with just a thing for my internship
That one year I tried lifetime activities in high school, (psshh) I had to do it

It has altered a little bit, over time, it's evolved into something that I want to do
Because I really enjoy, because I really love every session
Now I feel like I truly have the autonomy to impact other people's lives
What other place do we have in our life, to motivate each other
To get through some things that are mentally and physically challenging
It's a good feeling

Now, I feel better and I want to share that forward.* Participants and peer leaders

were eager and excited for other peers on campus to have similar positive experiences

that they had in the FB program. Some participants had made the decision to become

future peer leaders, and other participants expressed hope that the program could reach

more of their peers on campus in the near future.

Come Do This with Me, You'll Feel so Much Better

Favorite fitness buddies session?
I like them all, honestly!
It's been really good!
It's been awesome!
Yeah, it's been good

Well, I love it! I'll just say that, I love it!
It's been great!
It's a lot of fun and I enjoy it
I **feel** so much better!

Once we work out, I feel a lot better after
It definitely helps me with my energy, for class, and for home
At home I actually do go out more with my children, hey, let's go for a walk
I always feel better when I leave a fitness buddies session
I mean, sometimes, I come out and I'm like
I. Can't. Go. Down. The. Stairs. Very. Well.

All my fitness buddy sessions are usually in the morning
So then, it really helps the rest of the day

I usually have a much better day
If I get up and move a little bit
I definitely have energy throughout the day

My overall health improving
I don't need to, you know, eat a bowl of ice cream
It helps clean up my diet a little bit, when I do workout
Because you take more pride in yourself

I also take accountability on how much I smoke cigarettes now
Compared to when I wasn't working out
Because when you are sitting there on a treadmill and stuff like that
You can feel it a lot more than if you are just sitting there playing video games

My mental health is a lot better overall
It's more of a mental boost for me
I'm less anxious [laugh]
I really think that it really relieves your anxiety
Or at least it makes you tired enough to not really care anymore

Research has been showing that exercising can be almost as good
As taking anti-depressant medications
And I think it's true
I have more motivation, my mood is always boosted

Not so stressed…I'm like
Maybe slightly less mentally tired
I had to change my major and I was feeling really, really stressed about that
Blahdity, blahdity, blah
After session, it wasn't even a thought in my head
Now everything is fantastic

I'll come in and be really stressed out and just exhausted from class
And from everything else that is going on
Then after I'm done working out I'm usually feel pretty good about myself
You need a way to relive that stress instead of eating
It's more, mentally recharging myself
So that I can deal with the week and all the stress

It's nothing to do with my personal appearance at all anymore
If you have reasons because you don't like your body figure
Then that starts improving
Then you start feeling better mentally
You start feeling better about your appearance
Everything is kind of getting better

No matter how I'm feeling before
We're always laughing towards the end
It just makes me feel more regular
I'm in a better mood

It takes your mind off of, momentarily, off the stuff
So that it kind of focuses more
If you feel really restless or agitated, it really just kind of gets that out of you
And it just makes you feel…better

Leave feeling more energetic
I'm feeling pretty chill
Now I'm like oh cool…all relaxed
I usually pick up a little bit
It puts me in a good mood
I always feel better afterwards

I also feel a sort of confidence after each workout
I'd say a sense of accomplishment
That you did what you did in the morning
It's the confidence boost… that's a way to look at it
You get through the day from feeling like you accomplished something
I'm feeling more confident overall, in myself and my abilities

With school, when you are working out
You can give your mind a rest
Let your brain rest
Compared to relationships or interaction in classes
Your brain can rest while you workout
Versus you are processing class information and worrying about a group project

I'm better at doing homework after exercising?
I didn't really think that would happen
But I'm focused right after exercise
I have been better about doing schoolwork earlier
It helps with time management

My grades have gone up too
I haven't had such a hard time studying for tests
It's definitely been helpful for me to manage the load better
Was not expecting that, but that is definitely a plus!

I definitely feel like I can focus a lot better too after exercise
I have been much more productive even in my studying
Sometimes if I'm kind of hitting a slump with studying
I'll go run and yeah, it definitely helps clear out my head

I could become a leader so that I'd also be able to help other people
Being a leader has really helped with my introversion
I feel a little more confident in being able to have
Good conversations with people

I've been trying to do my best to pass along the knowledge
I have gained while I was a participant
Passing that along as well as trying to continue to improve
I am definitely not an expert
I've taught him what I know, but I'm far from a master at everything

Come with me! And we can do it together!
I wanted someone else to experience what she can bring to the table
I think that a lot of people would benefit from this
Fitness buddies are taking over the Rec Center right now!

Research question six. The following themes, I do belong here and I will be here

for you, represent participants' experiences of belonging in the FB program.

I do belong here. Participants consistently lauded the FB program as being a

welcoming and relaxed environment, without the perceived social pressures, and critical

social evaluation they had frequently experienced in other settings. Participants felt a

valued freedom to let their guard down and be themselves.

No Pressure, No Judgment

I feel like I belong here
Yeah, it does feel very welcoming
It's a much more relaxed environment
But also, very motivating

This is my home gym, I love the rec center
There's nobody here who stares at you weird [laugh]
All different sizes, all different types of people in their fitness journey are here
It feels so welcoming

I'm starting to get recognized by the front desk
The front desk people are soooo friendly
They already have a key ready and waiting for me by the time I come up to the desk
I know me too! Oh, you like the large locker, here you go
Have a good workout!

The relationship I have developed though fitness buddies
Is one of trust and respect
I think that just having the person that
I don't know
He understands
Because he doesn't look down on me

It's like okay, cool, I can just be myself with this person
This is more relaxing to be yourself and get a good workout in
You know, **I can just workout**
And you're going with friends

As opposed to just a regular friendship
That comes from being in classes together
It is more relaxed because it's not all like
Oh crap! We've gotta study for this test or we're going to fail or something

No, it's just like okay, we're gonna work on this
And if we aren't perfect at it, fine, that's okay
We'll work on it more
We'll just overcome these challenges at our own pace

Just being kind
No one's looking
No one's staring at you
No one's judging
Nobody is looking at you like, oh my goodness what are you doing?
No one judging you, because they are all doing their own thing
The people are nice. And no one's judgmental!

I'm definitely the worst in terms of, things are definitely a weakness for me
None of us right now are like star athletes
But no judgement…so that feels good!
We are both just coming in here and giving it our best
Basically, you're just going to better yourself

And it's very low pressure
The connections and relationships are more low pressure
Than relationships formed with other peers on campus
There is not a competitiveness about my FB relationships
Like I find with my fraternity brothers, for example

For those who don't know the gym environment
You come up here, and you see all these things
It can be intimidating
There's a lot of machines that you've probably never seen before in your life

So, it can be intimidating
Like, oh I don't know any of this stuff
I don't belong here
Which isn't true
I feel like I belong here, because there's all kinds of people here

  I will be here for you. Each participant highly valued and respected their FB's

time, which added another layer of motivation to be consistently present in each session.

Participants described a type of loyalty to their FB that motivated them to show up and

follow through for their buddy even when they had low energy or just did not feel like

showing up otherwise.

We Want to Be Here for Each Other

She kinda keeps me on track
It's the other way around [points at him]
[Both laugh, smile, and agree]
I don't know, I feel like you keep me responsible
For working out different parts of my body

The biggest thing is the accountability and motivation
I learned that he really values routine
So, I made sure that there was someone there for him
Just in case I couldn't come

I knew she was counting on me to be here
So, I feel like that brought me here [laugh]
There's some days where I don't want to come either
But I don't want to let down my buddies
So, it always gets me in the gym at least
Regardless of the workout, I come and I get it done

I would never… I feel really bad if I ever have to cancel on them
I know he's there so I know I should get there
I don't wanna be that person to cancel on him last minute
We do need somebody to hold us accountable
I know somebody is counting on me, so I'm going to show up for them
But we all get benefits out of it

CHAPTER V

DISCUSSION

This chapter includes presentation of the degree to which the findings from this study were consistent with, diverged from, and added to, the existing body of knowledge on social connection and PA in emerging adults. These findings are also discussed within the theoretical frameworks of RMT and TB, including the instances where findings intersected the two theories. The chapter concludes with the limitations of this study, as well as recommendations for future research and potential application to professional practice.

Emerging adulthood is an important developmental stage in which it is critical to develop competence to successfully create and maintain healthy behaviors and healthy relationships (Padilla-Walker & Nelson, 2017). Rates of both sedentary behavior (CDC, 2017; United States Department of Health and Human Services, 2019) and prevalence of mental health conditions in adults are currently a serious national public health concern in the United States (National Alliance on Mental Illness, 2019). Only 50% of college students are currently meeting the minimum national PA recommendations (ACHA, 2016). Emerging adults, defined as individuals 18-29 years of age, currently have the highest reported prevalence of mental illness compared to all other adults in the United States, while also being the age group with the smallest proportion of those experiencing mental illness having received treatment in the past year (National Institute of Mental Health, 2019). Lack of social connection among emerging adults has been suggested to

be a contributing factor to both patterns of sedentary behavior and prevalence of mental health concerns. Those who are more socially connected are more likely to engage in socially-oriented groups and activities (Toepoel, 2013), which often includes PA; while those who lack social connection are at increased risk of mental health conditions including depression, anxiety, and suicide (Seppala et al., 2013). Institutions of higher education are uniquely positioned to develop campus programs and policies, and foster campus cultures, that support emerging adults in the developmental imperatives to establish healthy relationships and healthy behaviors (Plotnikoff et al., 2015) as well as improve future national health statistics, as the majority of recent high school graduates are enrolled in these institutions each year (BLS, 2018).

A majority of the participants (n=14) in this study fell within the age range of 18-29 years, defined as emerging adulthood, while a few participants (n=3) were older than 30 years of age. Participants in this study, regardless of age, described facing the same challenges prior to involvement in the FB program, as those previously reported in the literature regarding college student health, including depression (Ibrahim et al., 2013), anxiety (Griggs, 2017), stress (Haidar, de Vries, Karavetian, & El-Rassi, 2018; Nguyen-Michel, Unger, Hamilton, & Spruijt-Metz, 2006), fatigue (ACHA, 2016), lack of consistent PA engagement (Calestine, Bopp, Bopp, & Papalia, 2017) and perceived loneliness (ACHA, 2016). While 53% of participants had prior PA experience, 59% of participants reported their greatest challenge to consistent PA engagement in the past was the "lack of someone to engage in PA with and keep them accountable for their goals." The lack of peers to not only engage in PA with, but to simply just connect with regardless of activity, was emphasized by participants in the paired interview data, as

they described their shared tendencies to go to, and from, class without talking to other classmates, as well as not being interested in, willing to, or comfortable attempting to make new peer social connections on campus. This pattern of social isolation experienced by participants in the university campus setting is similar to nationally reported data that revealed emerging adults in the United States had the highest loneliness scores on the UCLA Loneliness Scale, compared to all other adults age 38 years and older, including Generation X (born 1965-1979), Baby Boomers (born 1944-1964) and the Greatest/Silent Generation (born 1943 and earlier) (Cigna, 2018). Emerging adults, that included groups categorized as both Millennials (born 1980-1994) and Generation Z (born 1995-2015), were reported as identifying with the majority of the feelings indicative of loneliness, including 68-69% of Generation Z "feeling like people around them are not really with them," "feeling shy," and "feeling like no one really knows them well" (Cigna, 2018, p. 6).

In addition to these challenges to health and wellbeing consistent with the current literature for college students, some participants in this study also specifically spoke about additional challenges less commonly cited. Several of the women interviewed (n=5) described the stress of their roles as spouses and/or parents that created competing motives to balance the allocation of limited time and resources to simultaneously maintain their personal wellbeing, along with school, work and family responsibilities. There is a significant scarcity of literature regarding the health and wellbeing of student-parents (Sabourin & Irwin, 2008). Parental status is not a common demographic tracked by colleges and universities, but national data suggests that 26% of all undergraduate students in the United States also have dependent children (Gault, Reichlin, Reynolds, &

Froehner, 2014) and more single student-parents than married student-parents are enrolled on college campuses (Lovell, 2014). A few other participants (n=3) uniquely described their struggle to find a sense of belonging on campus as veteran students who assumed they were older than the "stereotypical undergraduate student," and would not have anything in common with their classmates. Veterans, active duty service members, and military-connected dependents are enrolling on college and university campuses in record numbers under post 9/11 GI Bill and other military financial assistance benefit programs (Albright, Fletcher, Pelts, & Taliaferro, 2017). Both student-parents and military/veteran students increasingly represent a greater proportion of college and university enrollments, but are still often labeled as "non-traditional." The identity label of being non-traditional and/or a minority student on campus, may amplify a student's need for, and challenge to find, social connections on these campuses. These rapidly changing college student demographics profoundly underscore a need for differential and diversified campus health and wellness programming, as well as additional research to determine how best to serve the diverse 21st century college student.

Improved Health and Wellbeing through Physical Activity Based Social Connections

Participants' engagement in the FB program, a socially structured university PA program, resulted in the development of reliable social connections and consistent engagement in PA. Participants described in the paired interview data and reported in FB program registration data, that social connection and PA had previously been lacking or inconsistent. Participation in the FB program facilitated improved perceptions of multiple health and wellbeing indicators. Results indicated these changes included improved situational affect (e.g., happiness, stress, anxiety, energy, etc.), repetitive refrains of

feeling significantly better (physically and mentally), increased focus on and organization with academic coursework, and better perceived capacity to cope with the daily stressors of role responsibilities.

Many of these perceived improved health and wellbeing indicators were reported in the emoji feeling response data which demonstrated that after a FB PA session, participants were more likely to collectively report feeling happier, more confident, energized, and connected, while less likely to report feeling anxious, stressed, tired, sad or frustrated. In terms of key college student mental health concerns, specifically stress and anxiety (ACHA, 2016), 81.5% of the time participants had checked-in to a FB session as feeling anxious, they checked out not feeling anxious, while the rate for was 58.3% for stress. Using emojis with associated feeling words for quick report of situational affect was a valuable and innovative measurement tool that could be used for both health research and program evaluation. Emojis are salient and familiar to emerging adults, used readily in electronic communication, but were also shown to be valid and have similar psychometric properties compared to words alone, in a recent study that used emojis to measure vocational interests (Phan, Amrhein, Rounds, & Lewis, 2019).

Improved perceptions of health and wellbeing were consistent across this sample, regardless of the number of PA sessions attended, motives for participation, or previous fitness experience. The process by which bouts of PA result in consistent experiences of positive emotions and reduced stress, that then lead to the development of psychosocial resources such as environmental mastery and stronger social bonds, was demonstrated in this study and is consistent with previous research (Hogan, Catalino, Mata, & Fredrickson, 2015; Schultchen et al., 2019). Participants in this study consistently

described both their appreciation and excitement in experiencing gradual, consistent, improved personal physical competence across their FB sessions. Participants attributed their participation in the FB program, to improving their perceived ability to cope with daily stressors, ability to manage their time, and ability to focus in class and be productive when studying. Additionally, participants made social connections with students outside of their academic programs of study that they wouldn't have otherwise connected with. For many participants, their FB was the first consistent peer relationship and/or friendship they had established on campus. Participants' lack of social connections on campus prior to participating in the FB program is consistent with the literature describing transitional periods (e.g. starting college) as common triggers for loneliness, because social networks tend to break down and need to be rebuilt (Fiori & Consedine, 2013).

Relationship Motivation Theory

RMT posits that when the basic psychological needs of autonomy, competence and relatedness, are satisfied through an interpersonal relationship, that relationship will be the most fulfilling and of "highest quality" (Deci & Ryan, 2014, p. 56). In addition to improved perceptions of general health and wellbeing, participants in this study reported a similar degree of BNS in their FB relationships (M=6.27) as had been previously reported among college students in relationships with a best friend (M=6.23) (La Guardia et al., 2000). This finding is meaningful as the BNSR does not appear to have previously been utilized to measure relationships in a PA setting. Participants' comparable degree of BNS in their FB relationship to university students' BNS in relationships with best friends, interestingly suggests that having a peer to connect with consistently for as little

as an hour each week, in a PA setting, may serve as a 'high quality' relationship that supports and satisfies needs. A PA-based relationship may support BNS even when the individuals are not connecting daily or for multiple hours weekly, that is often the case for other interpersonal relationships.

Previous research has demonstrated that BNS is consistently associated with greater psychological wellbeing and positive affect (Deci & Ryan, 2014; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000). In contrast to the "weekend effect" reported in employees who worked in need thwarting organizations and reported greater perceived need satisfaction on the weekends (Ryan, Bernstein, & Brown, 2010), participants in this study expressed a strong "semester break effect" in which they felt worse and "in a funk" when they were removed from their weekly FB sessions during semester breaks (e.g. Thanksgiving, winter/summer break). The relationships developed in the FB program were needs supportive and participants in this study described a great sense of joy and recalibration when returning to their FB sessions after breaks.

The number of PA sessions attended was a significant predictor of competence need satisfaction through the FB relationship as indicated by the results of that regression analysis ($p<0.05$). Competence need support through the FB relationship was further supported by significant correlations between MPAM-R subscales, including, interest/enjoyment motives significantly correlated with competence motives ($r=0.66$, $p<0.01$), as well as social motives significantly correlated with interest/enjoyment motives ($r=0.7$, $p<0.01$), competence motives ($r=0.65$, $p<0.01$) and fitness motives ($r=0.58$, $p<.05$). These associations were strongly reinforced by the paired interviews, as participants described the validating support they experienced through their FB

supporting and encouraging the pursuit of personal goals and new challenges. Many participants had never been to the campus recreation center before beginning the FB program, while others had attempted to use the facility but reported feeling intimidated by the vast space and insecure about their lack of physical competence and fitness knowledge. The relatedness support participants reportedly received from their FB facilitated them feeling supported and safe to come to the facility regularly and try new exercises/modalities in pursuit of their respective health and wellness goals (e.g. getting stronger, losing weight, decreasing stress and anxiety, having more energy). Across multiple weeks and months of participation in the FB program, participants reported pride in the increased physical competence they had developed and in the observable progress they had made towards those goals. Relatedness need satisfaction that fosters acceptance and belonging, and encourages autonomous motives to pursue risks (e.g., new challenges), that in turn develop competence, is predicted by RMT (Deci & Ryan, 2014) and was consistently described by participants in paired interviews.

As program participants and peer leaders consistently engaged in consecutive FB PA sessions over the course of the semester, they expressed an increased confidence from observing tangible improvements in their personal physical fitness. Participants spoke about their progress and achievements experienced through their workouts contributing to improvements in their overall sense of self-worth and self-confidence. Increased competence developed through successful mastery at an optimally challenging task, in a supportive environment, that over time, improves self-worth, is also supported by Harter's (1978) work with competence motivation. The process by which participants experienced increased perceptions of self-worth and self-confidence through supported

pursuit of new challenges that fostered competence via successful mastery of new

challenges, complements the theoretical processes contended within RMT in which

individuals who experience BNS in relationships also report improved psychological

wellbeing (Deci & Ryan, 2014).

Participants consistently reported their appreciation and deep value for the FB

relationships that connected them with peers they might never have had the opportunity

to get to know otherwise. For some participants, their FB relationship remained their

primary source of social connection at the university during the course of the semester

that data were collected for this study. RMT posits that when individuals "enter, commit

to, and persist at close relationships autonomously they will likely experience the

relationships to be of higher quality than when their motivation for the relationship is

more controlled" (Deci & Ryan, 2014, p. 58). This theoretically supports participants'

report of a valued preference for their FB peer relationships, compared to other settings

on campus where peer relationships may be controlled by semester schedules, study

demands, or course project requirements, and may be perceived as 'lower quality' in that

they may be less satisfying of basic psychological needs.

Towards Self Determined Engagement

Self-determined, autonomous, or intrinsic, motivation to engage in PA over the

long term, is more likely to be present when intrinsic task value is cultivated through

competence, enjoyment, and social motives (Ryan et al., 1997). The majority of non-peer

leader participants signed up for the FB program to improve their health and fitness,

while the majority of peer leaders joined the program to complete internship credit hours.

In the paired interview data, both peer leaders and non-peer leaders, described how their

degree of motivation and participation motives evolved over time as they developed a relationship, and friendship, with their FB. After one semester in the FB program, all participants,' including peer leaders, highest rated participation motive reported on the MPAM-R remained the desire to improve health and fitness, followed by enjoyment and competence motives. These top-rated participation motives would predict participants having a greater theoretically-based likelihood of developing, and sustaining, self-determined motivation for PA engagement.

Participants felt that access to new peer social connections that were preceded by a shared purpose and common interest in getting healthier and more physically active was an essential component to participants' value for and continued participation in the FB program. For both program participants and peer leaders, the consistent presence of their FB facilitated consistent engagement in PA across the semester despite the continued presence of the challenges they had faced before beginning the FB program. Participants also articulated in the paired interviews that their motivation for PA engagement from week-to-week shifting from feelings of "having to" to feelings of "wanting to." Previous research has found that intrinsically based exercise goals (e.g., to improve health, learn new skills, obtain social affiliation), partially mediated by basic psychological need satisfaction, are predictive of psychological wellbeing and self-worth (Sebire, Standage, & Vansteenkiste, 2009). Participants' motivation for PA engagement across the semester shifted from a more externally regulated obligation to a more internally regulated value as a result of a basic psychological need satisfying relationship and enjoyment in learning new fitness skills and feeling better mentally and physically.

True Belonging

TB proposes that an individual should not change who they are to be accepted by others, but rather, there exists a basic human need to remain true to who they already are (Brown, 2017). Brown (2017) further posits that in order to cultivate TB, behavioral development of trust, represented in the BRAVING acronym (see Table 9) must be intentionally practiced and accessible. In the paired interviews, participants specifically described feeling a sense of true belonging with their respective FB that was facilitated by the presence of the boundaries, reliability, non-judgment and generosity components of BRAVING.

Table 11

The BRAVING Practice Acronym (Brown, 2017, p. 38-39)

BRAVING Acronym	Components of Trust Defined
Boundaries	You respect my boundaries, and when you're not clear about what's okay and not okay, you ask. You're willing to say no.
Reliability	You do what you say you'll do. At work, this means staying aware of your competencies and limitations so you don't overpromise and are able to deliver on commitments and balance competing priorities.
Accountability	You own mistakes, apologize, and make amends.
Vault	You don't share information or experiences that are not yours to share. I need to know that my confidences are kept, and that you're not sharing with me any information about other people that should be confidential.
Integrity	You choose courage over comfort. You choose what is right over what is fun, fast, or easy. And you choose to practice your values rather than simply professing them.
Non-judgment	I can ask for what I need, and you can ask for what you need. We can talk about how we feel without judgment.
Generosity	You extend the most generous interpretations possible to the intentions, words, and actions of others.

The *boundaries* component of BRAVING practice builds trust because individuals in a relationship communicate to, and clarify with, each other what each

person is comfortable with, and both individuals are comfortable and supported in saying no to activities that are outside of their respective boundaries. When participants were asked to describe a "typical FB session," in the paired interviews, they consistently described a process in which very early on in each pair's relationship, individual and shared expectations were discussed and agreed upon and the established expectations for subsequent sessions, respected each participant's boundaries. Each FB participant and peer leader could honestly communicate what activities they were willing and interested in participating in each week, as well as what supportive knowledge and skill building they needed for continued success. Participants also reported feeling safe and supported to "change up" the plan from week-to-week depending on what the pair was feeling like on any given day. Pairs of participants explained that the flexibility to engage with an activity that was both enjoyable each week and matched the dynamic "ups and downs" of the semester (e.g., mood, energy, weather, studying, sleep, etc.) was essential to their sustained participation in the FB program.

The *reliability* component of BRAVING practice builds trust between individuals, because each person follows through with commitments and promises and does not over-promise, over-commit, or exaggerate, what they can offer that is outside of their realistic personal limits and competencies. The FB program was designed to ensure that peer leaders did not act as experts, trainers or coaches. This programmatic structure contributed to peer leaders being reliable and not inappropriately stretching outside their individual fitness and wellness competencies. The relationships that were established between FB, additionally fostered reliability, as participants described in the paired interviews that they held a deeply valued sense of loyalty to one another to be reliably

present to support one another in their respective fitness journeys. This sense of loyalty motivated each participant to show up for the other buddy when they were scheduled to meet, even when they had particularly low energy or low motivation to engage in PA on a given day.

The *non-judgment* component of BRAVING practice builds trust because individuals are free to express what they feel, and what they need, without fear of receiving judgment in response. In experiences on campus prior to the FB program, and in other fitness settings, participants had felt significant social pressure to perform, in order to prove their worth and competence. In the paired interviews, several participants expressed a substantial fear of judgement; of being socially evaluated as physically incompetent or simply not belonging in a space where they did not present as the most skilled or knowledgeable individual. Several participants shared that the FB program was a unique space in which they did not feel they had to meet any prerequisite physical or social standards to join. Participants described their FB sessions as refreshing and welcoming and repeatedly shared their sense of surprise at how kind peer leaders were, and that they didn't experience staring or perceived judgment during each FB session. Participants also emphasized that the experience of feeling accepted and welcomed in the FB program without judgement, was a powerful vehicle by which they felt safe to successfully challenge themselves physically and mentally to grow and succeed beyond their previously perceived capabilities.

The *generosity* component of BRAVING practice builds trust because it encourages individuals to extend grace to one another, as individuals "extend the most generous interpretation possible to the intentions, words, and actions of others" (Brown,

2017, p. 39). During paired interviews, participants expressed gratitude that their buddies had supported them with the generous assumption that each was doing their best on any given day and they would be supported and respected regardless of what level of ability or types of challenges they brought with them into each session.

Participants' experiences in the FB program, that provided them a safe space to engage in PA with a peer, without any perceived prerequisite social or physical standards to meet, and without fear of judgment, are consistent with the theoretical definition of TB to belong in spaces where we can be who are and not have to change who we are before we can be accepted. Participants descriptions of their journeys in the FB program were similarly reflective of deep relatedness need satisfaction described by Deci and Ryan (2014) as, "when we feel non-contingently valued, or loved for our own sake, and supported in our autonomy, that relatedness is most fulfilled" (p. 68).

Theoretical Paradox

In analyzing the data, alternating between the theoretical lenses of RMT and TB, there emerged two considerations where the data sat paradoxically at the intersection of the two theories. The first instance considered the intersection of autonomy need satisfaction and the BRAVING practice of *boundaries*. RMT predicts that "the highest quality close relationships" afford both individuals a high degree of BNS, including enjoyment of reciprocal autonomy support. In the case of participants in this study, they supported one another's choice to embark upon, or continue in, their respective fitness journeys. Simultaneously, participants in paired interviews described equitably sharing the responsibility and decision-making process that went into planning and ultimately deciding what the modality, intensity and duration would be for each session, which in

turn respected each other's boundaries in each session. While each individual entered the

FB relationship under autonomous motives and in establishing that relationship supported

one another's autonomy to become more physically active, each session was a unique

space in which there appeared to be "shared autonomy" between each pair of FB that

stemmed from the BRAVING practice of respecting boundaries.

The second instance considered the intersection between introjected regulation

and the BRAVING practice of *reliability*. On the continuum of motivation (Ryan & Deci,

2007), introjected regulation is a form of extrinsic motivation often marked by behavioral

motives driven by perceived social pressure, guilt, shame and/or avoiding disapproval.

College students have been previously reported as engaging in PA for introjected motives

stemming from perceived social pressure to be active and the PA behaviors of peers

(Fletcher, 2016). During interviews, participants described developing an enduring

motivation to consistently be present at each FB session, driven by a deep personal value

to show up for their FB no matter what other challenges cropped up each week. The ways

that participants emphasized the value of following through with scheduled FB sessions

was not expressed as an obligation or avoidance of guilt, but rather participants described

an internalized value for being the type of peer, friend and/or buddy that was consistently

reliable. Participants descriptions are consistent with the *reliability* component of

BRAVING practice, and are more closely aligned with identified regulation, which is a

more integrated, or self-determined, form of motivated behavior than introjected

regulation.

Anecdotally it is generally discussed and understood in society, that relationships

are only sustainable when there is compromise or the proverbial "give and take," as well

as trust and "being true to your word." However, the data from this study expand the understanding of how compromise and trust in interpersonal relationships might be theoretically operationalized with RMT and TB, albeit paradoxically. Carl Jung (1953), in describing contradictions in the Christian faith, is credited with describing a paradox as "one of our most valuable spiritual possessions…because only paradox comes anywhere near comprehending the fullness of life." It is reasonable that something as complex and foundational as human connection would similarly be better understood with at least some degree of paradox.

Extending the Body of Knowledge on Social Connection through Physical Activity

The findings from this study contribute uniquely to the current body of knowledge on the ways in which social connections benefit the health and wellbeing of emerging adults in a PA setting. This appears to be the first study to use both RMT and TB to explore experiences of belonging and BNS in PA-based social relationships. These theoretical frameworks were chosen to intentionally position the lens of inquiry of this study primarily on the PA-based relationships, rather than on the PA itself. The use of mixed methods produced data in which the two theories predicted both complimentary and contradictory relationship and behavioral dynamics. Participants reported BNS through FB relationships, consistent improvements in positive situational affect after each PA session, and perceived improvement in energy, self-confidence, stress and anxiety levels, and physical and mental health, regardless of the number of PA sessions attended. Participants reported simultaneously experiencing autonomy support while also sharing autonomy with their FB. Participants' reported their participation motives shifted from more externally regulated and obligatory, to more internally regulated. This shift towards

more self-determined participation motives was descriptively mediated by both BNS and the development of trust, through the FB relationships. These findings suggest that consistent and stable social connections in a PA setting have the potential to appreciably improve perceived health and wellbeing outcomes in emerging adults, regardless of the number of minutes or days spent engaged in PA from week to week, and supports the need for caution and reevaluation of PA level threshold prescriptions for health benefits (Warburton & Bredin, 2017).

Limitations

This study and the application of these findings come with three primary limitations. First, the sample size was small and was only representative of the experiences of students on one university campus, over one semester. The sample size limited statistical analyses to primarily descriptive findings and does not afford generalizability to the national population of emerging adults on university campuses. Secondly, the researcher was heavily embedded in the FB program and the study findings that support positive outcomes in students the program mission intended to reach, could create a degree of confirmation bias. Thirdly, there were a small number of students that signed up for the FB program, but never attended a session, despite numerous attempts to contact those students after they initially registered. Findings discussed are therefore inherently limited to the experiences of students that chose to start. It could be conjectured that those students may have had additional barriers (e.g., fear, insecurity, schedule limitations, injuries) that prevented them from getting started in the FB program. Given these limitations, future research recommendations subsequently

described could serve to generate additional data to further expand the understanding of the benefits of, and barriers to, social connection and PA.

Future Research and Implications for Practice

Engagement in a socially structured PA program like the FB program, that provides a safe and welcoming space for emerging adults to experience belonging and BNS can serve as an exemplar of the potential health and wellbeing benefits to be found through quality social connections physically in active spaces. Improved physical competence through consistent and challenging PA engagement, has the potential to translate to increased competence in other achievement domains, like the classroom. Colleges and universities could consider developing similar programs to improve the physical and mental health outcomes of the emerging adults enrolled on their respective campuses. University and college administrators can leverage interprofessional collaboration with faculty and campus student wellness professional staff to support student success. Intentional collaboration to foster improved student health and wellbeing can ultimately contribute to improved retention and graduation rates.

Future research should continue to explore the physical and psychological benefits of, and barriers to, social connections in PA spaces. The theories of RMT and TB are valuable for future research to situate relationships as the focal point of PA, health, and wellness based on emerging empirical evidence such as the findings in this study. Future studies can be expanded to include cross sectional and longitudinal assessments of the associations and predictive value that social connection through PA has on physical (e.g., body composition, blood pressure, sleep quality, fitness level), psychological (e.g., state/trait anxiety, depression, perceived stress), and academic (e.g., GPA, graduation,

retention) indicators. The positive experiences of FB participants also offer a useful model for ways in which the benefits of social connection through PA could be translated outside of the traditional fitness and recreation center and be brought into spaces like higher education classrooms, to create supportive, active, and healthier learning communities. Programs on college and university campuses that foster belonging and psychological wellbeing, have powerful potential to be a driving force for changing the health and wellbeing of not only the current, but also the next generation of emerging adults.

Conclusion

There is a critical need, now more so than in previous decades, to find our collective way back to one another, one human connection at a time. As a society, in the United States, we have instant access to virtually connect to other individuals across the globe with a click of a finger on just about any device. Yet, walk into a local coffee shop or a sports arena, or walk across a university campus and social connections beyond those device screens are limited. An individual can have hundreds of friends on social media platforms and consume endless hours of media online, while simultaneously lacking a single person in their life that can provide a consistent source of connection in times of joy, in times of crisis, and for all the facets of the human experience in between. While so many of our modes of communication and connection have become absorbed into the internet via mobile and technological devices, rates of mental illness, including depression, anxiety, suicide and addiction are steadily on the rise, with some of the highest prevalence of these reported in emerging adults (National Institute of Mental Health, 2019).

In the United States, today, we are increasingly sorted by ideological factions, surrounding us with a false sense of comfort from echo chambers and feedback loops, and yet while we might hypothesize finding happiness and connection surrounding ourselves primarily with those that look like us and believe the same things we believe, we are growing steadily lonelier than we have been in decades (Brown, 2017). This study exemplified the ways in which a simple weekly connection between two people centered on the shared objective of engaging in enjoyable PA can significantly improve the way we feel from day to day. It is a critical imperative for national public health, as well as for our collective humanity that we consider the multitude of ways these invaluable social connections can be generated across varied domains and settings. Social connections that allow individuals to experience BNS to support positive psychological wellbeing and thriving, as well as social connections that create relationships that support true belonging and learning to trust those around us again through BRAVING practice. These connections are desperately needed for individuals of all ages and backgrounds, so that we might start to chip away at the sadness and isolation that has become so prevalent in our shared communities. When social connection and PA can be employed in concert, then we may also observe and experience increased joy and thriving in those same communities.

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APPENDIX A

PROGRAM REGISTRATION QUESTIONS

Fitness Buddy Student Registration Questions:

First Name: Last Name:

Email: Phone:

Preferred Contact (drop down): Email, call, text

Age:

Gender (drop down): Male, Female, Non-binary   Race/ethnicity: (Write in)

Year in School (drop down): Freshman, sophomore, junior, senior, graduate student

Major:

What is your primary motivation for signing up for Fitness Buddies? (bubble choices-select one):

- o   Enjoyment: To have fun

- o   Fitness: To get in shape or stay in shape

- o   Health: To be healthier and feel better

- o   Appearance: To change body composition

- o   Competence: To take on a new challenge and learn new ways to be active

- o   Social: To meet new people and be supported by peers

- o   Other: (Write in answer)

What have been your greatest challenges or barriers to being active in the past? (bubble choices- select all that apply):

- o   I didn't have enough time

- o   I didn't have anyone to be active with or keep me accountable for my goals

- o   I didn't have a gym to go to

- o   I didn't know what to do to be active or get in shape

- o I haven't found activities I enjoy

What are you most looking forward to about Fitness Buddies? (write in answer)

Fitness Background (bubble answer)

- o Beginner (I'm excited to start adding activity to my week)

- o Intermediate (I've worked out off and on but I am looking for support and motivation to continue)

- o Experienced (I work out on a regular basis but would love to have a buddy to do it with)

List your favorite activities to get moving:

APPENDIX B

CHECK-IN/CHECK-OUT SHEET

Date:	Activity:	Duration:
Name:	**Name:**	**Name:**
How are you feeling today?	**How are you feeling today?**	**How are you feeling today?**
Happy Sad Frustrated Meh Stressed Excited Anxious Tired Connected Energized Confident Relaxed	Happy Sad Frustrated Meh Stressed Excited Anxious Tired Connected Energized Confident Relaxed	Happy Sad Frustrated Meh Stressed Excited Anxious Tired Connected Energized Confident Relaxed
How do you feel now?	**How do you feel now?**	**How do you feel now?**
Happy Sad Frustrated Meh Stressed Excited Anxious Tired Connected Energized Confident Relaxed	Happy Sad Frustrated Meh Stressed Excited Anxious Tired Connected Energized Confident Relaxed	Happy Sad Frustrated Meh Stressed Excited Anxious Tired Connected Energized Confident Relaxed
When can we meet next?	**When can we meet next?**	**When can we meet next?**

APPENDIX C

BASIC NEED SATISFACTION IN RELATIONSHIPS (BNSR)

Basic Need Satisfaction in Fitness Buddies Relationships

When answering the following, please think about relationships you have formed within the Fitness Buddies program.

Please respond to each statement by indicating how true it is for you. Use the following scale.

1	2	3	4	5	6	7
not at all true			somewhat true			very true

1.   When I am with a fitness buddy, I feel free to be who I am.

2.   When I am with a fitness buddy, I feel like a competent person.

3.   When I am with a fitness buddy, I feel loved and cared about.

4.   When I am with a fitness buddy, I often feel inadequate or incompetent.

5.   When I am with a fitness buddy, I have a say in what happens, and I can voice my opinion.

6.   When I am with a fitness buddy, I often feel a lot of distance in our relationship.

7.   When I am with a fitness buddy, I feel very capable and effective.

8.   When I am with a fitness buddy, I feel a lot of closeness and intimacy.

9.   When I am with a fitness buddy, I feel controlled and pressured to be certain ways.

APPENDIX D

MOTIVES FOR PHYSICAL ACTIVITIES

MEASURE- REVISED (MPAM-R)

The Scale

Motives for Physical Activities Measure – Revised (MPAM-R)

The following is a list of reasons why people engage in physical activities, sports and exercise. Keeping in mind the primary physical activities you participated in through the Fitness Buddies program, respond to each question (using the scale given), on the basis of how true that response is for you.

1	2	3	4	5	6	7
not at all true for me						very true for me

___ 1. Because I want to be physically fit.

___ 2. Because it's fun.

___ 3. Because I like engaging in activities which physically challenge me.

___ 4. Because I want to obtain new skills.

___ 5. Because I want to look or maintain weight so I look better.

___ 6. Because I want to be with my friends.

___ 7. Because I like to do this activity.

___ 8. Because I want to improve existing skills.

___ 9. Because I like the challenge.

___ 10. Because I want to define my muscles so I look better.

___ 11. Because it makes me happy.

___ 12. Because I want to keep up my current skill level.

___ 13. Because I want to have more energy

___ 14. Because I like activities which are physically challenging.

___ 15. Because I like to be with others who are interested in this activity.

___ 16. Because I want to improve my cardiovascular fitness.

___ 17. Because I want to improve my appearance.

___ 18. Because I think it's interesting.

___ 19. Because I want to maintain my physical strength to live a healthy life.

___ 20. Because I want to be attractive to others.

___ 21. Because I want to meet new people.

___ 22. Because I enjoy this activity.

___ 23. Because I want to maintain my physical health and well-being.

___ 24. Because I want to improve my body shape.

___ 25. Because I want to get better at my activity.

___ 26. Because I find this activity stimulating.

___ 27. Because I will feel physically unattractive if I don't.

___ 28. Because my friends want me to.

___ 29. Because I like the excitement of participation.

___ 30. Because I enjoy spending time with others doing this activity

APPENDIX E

RECRUITMENT SCRIPT

I am reaching out today to see if you are interested in being a part of a research project to explore the experiences of students who have participated in the Fitness Buddies program. We are recruiting all students that have participated this semester. If you agree to participate I will meet you at the Campus Recreation Center to first complete a form agreeing to voluntarily participate, as well as complete a survey. The survey will ask about your motivation to participate in the program and about the relationships developed with other peers in the program. After completing the survey, I will schedule a time to meet with you, so that you can tell the story of your experiences, along with the fitness buddy you typically meet with. We anticipate that these story sharing sessions will last approximately one hour, and sessions will be video recorded. Additionally, I will ask to access your individual program registration question responses, along with your check in/check out sheets to better understand what motivates students to participate in Fitness Buddies and what kind of impact physical activity has on how students are feeling over the course of the semester. If you are interested in more details about this project, and to sign up to participate in the project, please contact Jessica Kirby (jkirby@uccs.edu or 719-244-7990).

We look forward to hearing from you!

APPENDIX F

PARTICIPANT EMOJI DATA GRAPHIC REPRESENTATIONS

Emoji Check-in and Check-out Responses: Wes

Emoji Check-in and Check-out Responses: Miguel

Emoji Check-in and Check-out Responses: Stefanie

Emoji Check-in and Check-out Responses: Kent

Emoji Check-in and Check-out Responses: Vivian

Emoji Check-in and Check-out Responses: Henry

Emoji Check-in and Check-out Responses: Simone

Emoji Check-in and Check-out Responses: Rylee

Emoji Check-in and Check-out Responses: Caleb

Emoji Check-in and Check-out Responses: Deb

Emoji Check-in and Check-out Responses: Stephen

Emoji Check-in and Check-out Responses: Joe

Emoji Check-in and Check-out Responses: Rose

AFFECT: 1=NEGATIVE 2=MIXED 3=POSITIVE

INDIVIDUAL SESSIONS ACROSS SEMESTER

Before   After