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The Relationship Between Mental Health and Ultra-Running: A Case Study

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The Relationship Between Mental Health
and Ultra-running: A Case Study

A doctoral dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Counselor Education

by

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August 2018
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ABSTRACT

This instrumental case study sought to explore the relationship between ultra-running and mental health through the lived experiences of a single participant who self-identifies as an ultra-runner. Three research questions were used to explore this relationship; how did the individual decide to participate in ultra-running, what aspects of ultra-running impact the participant's mental health, and how has engaging in ultra-running impacted the participant's mental health? The case study utilized three semi-structured interviews, two participant observations, video documentary review, and journaling to answer these questions. A thematic analysis of the data revealed four essential themes; 1) Development of participation, 2) Promotes positive mental health practices, 3) Development of self-identity, and 4) Dependency. The case study had three major findings. First, the participant's journey to being an ultra-runner developed over time. Second, the aspects of ultra-running that impact the participant's mental health are: 1) The social community it creates, 2) The structure it requires, 3) The experience of physical deprivation, 4) The amount of time spent in nature, 5) The challenge it creates, 6) The physical feeling it creates, and 7) The ability to use it as a platform for gender equity. Finally, the ways ultra-running has impacted the participant's mental health are: 1) The creation of an identity that revolves around her engagement in ultra-running, 2) The promotion of healthy mental health practices, and 3) Her dependency on ultra-running. The case study concluded that the participant did not begin to engage in ultra-running in response to her mental health needs but as a product of experiences and positive reinforcements in her life, ultra-running has the potential to be very beneficial to a participant's mental health through a variety of areas in a participant's life, and engaging in ultra-running can create dependency in an individual when used as a primary coping skill or an essential part of the participant's identity.

ACKNOWLEDGEMENTS

I would like to acknowledge Dr. Kristin Higgins for all of the help and support that she gave me through this process. She has been a supportive and positive person who has acted as a guiding light throughout this process. I would also like to acknowledge Dr. Ed Bengtson for his time spent with me as I learned and became passionate about qualitative research and case study design. His knowledge and passion for these areas has created a passion for future work in these areas for me. I would like to acknowledge Dr. Paul Blisard for being a mentor and friend throughout my Master's and Doctoral studies. He has been an inspiration and model of excellence as an educator and counselor. I would also like to acknowledge Dr. David Christian for his friendship, guidance, and passion. He has inspired me to reach for excellence and to always show my passion for counseling, adventure therapy, and teaching. Finally, I would like to acknowledge my participant who was amazing through this case study process. If it were not for you I would not have been able to complete this. Thank you for the openness, honesty, vulnerability, and friendship that you provided through this process.

DEDICATION

I dedicate this thesis to my family: Suzy, Kaiya, and Cade. You have been the ones who have supported me, loved me, forgiven me, and were patient with me through this entire process. I have had late nights, long trips to other states, and lots of coffee. Through all of my needs, desires, and wants you were all there to support me and to love me. My passion, dedication, and desire for this journey was born through my love of you and was for you. I hope that you will always know that I would move mountains for all of you. I Love you.

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

INTRODUCTION

The purpose of this instrumental case study was to explore the relationship between ultra-running and mental health through the lived experiences of a single participant. It was anticipated that this exploration would provide insight into the relationship between ultra-running and mental health for this individual and inform future research and utilization of ultra-running as a therapeutic means. This chapter will address: (a) problem statement, (b) statement of purpose and research questions, (c) context overview (d) research approach, (e) researcher's perspectives, (f) researcher's assumptions, (g) rationale and significance, (h) definitions of key terminology, (i) and summary.

Problem Statement

In the United States 1 in 5 people or 43.8 million people experience mental health issues in a given year, with 1 in 25 people experiencing severe mental illness that creates a significant impact on their lives (NAMI, n.d.). Exercise is an effective strategy to help those who are experiencing symptoms of anxiety and depression as well as other mental illnesses (Paluska & Schwenk, 2000). Running has a significant effect on participants' anxiety, depression, and anger and may serve as a preventative for these symptoms (Bodin & Hartig, 2003; Warburton, Nicol, & Bredin 2006). Though the use of exercise and running as a beneficial avenue for mental health has been established, the relationship between mental health and ultra-running has not been thoroughly examined.

Purpose Statement

The purpose of this instrumental case study was to explore the relationship between ultra-running and mental health through the lived experiences of a single participant. It was anticipated that this case study would allow the researcher to gain a greater understanding of how

ultra-running and mental health interact with each other in a single participant's experiences. Through this exploration there was a greater insight gained into what the possible benefits and risks to one's mental health are associated with participating in ultra- running.

Research Questions.

1) How did the individual decide to participate in ultra-running?

2) What aspects of ultra-running impact the participant's mental health?

3) How has engaging in ultra-running impacted the participant's mental health?

Context Overview

The benefits of running on physical health is a well-documented area of research (Lee et al., 2014; Reiner, Niermann, Jekauc, & Woll, 2013; Sothern, Loftin, Suskind, Udall, & Blecker, 1999; Warburton et al., 2006). Research suggests that exercise is an effective way to help prevent several chronic diseases such as cardiovascular disease, diabetes, cancer, hypertension, obesity, and osteoporosis (Reiner, Niermann, Jekauc, & Woll, 2013; Sothern et al., 1999; Warburton et al., 2006). Research has shown that running has a positive effect on an individual's mental health and has been shown to significantly reduce the symptoms associated with anxiety, depression, and anger (Bodin & Hartig, 2003; Warburton et al., 2006). There have been a substantial number of studies done on the effects of running on an individual's mental health, but the impacts of ultra-running have not been as well documented.

Ultra-running is running beyond the marathon distance in a single attempt. Some research has shown that the effects of ultra-running include greater self-esteem, self-awareness, increase in a positive mood, less perceived stress, and social connectedness with others (Johnson et al., 2016; Krouse et al., 2011; Simpson, Post, Young, & Jensen, 2014). Some studies have shown that ultra-runners draw motivation and pride from pushing themselves way beyond normal limits

and being able to complete events that may be impossible by themselves or others (Bull, 1989; Krouse et al., 2011).

Ultra-running is commonly done in a natural environment over a prolonged period of time. This time is spent doing the repetitive motion of putting one foot in front of the other and is a time for meditation, a time for self-awareness, a directed focus on the here and now, and even a spiritual journey (Johnson et al., 2016; Simpson et al., 2014). Karnazes (2017) describes ultra-running as a therapeutic replacement for more traditional forms of therapy like offices or clinics. The ability for ultra-running to be therapeutic for some participants has been linked to the possibility of participants experiencing Csikszentmihalyi's (1990) concept of flow (Martinez and Scott, 2016). It has also been linked to a sense of being connected to nature (Bratman et al., 2012; Marselle, Irvine, & Warber, 2013). One social aspect that ultra-running has been linked to is the sense of comradery that is felt within this sport (Johnson et al., 2016; Krouse et al., 2011).

Although running and ultra-running have the potential for both physical and psychological benefits, the development of dependency may also be possible (Hamer, & Karageorghis, 2007; Hausenblas, & Downs, 2002). Ultra-runners spend countless hours and time running, and if this is done in an unhealthy way it can become exercise dependency. Exercise dependency is described as a relentless pursuit of exercise to the point of spending excessive time, effort, and thought toward the exercise despite the appearance of negative consequences on the individual's physical and/or psychological health (Hausenblas, & Downs, 2002). These consequences may include disturbances in the individual's life and career, withdrawal symptoms, and symptoms of anxiety and depression.

To better understand the context of this research study it is important to also understand the theoretical framework that the researcher is approaching the study with. This research study

is being approached through a constructivism epistemological approach which has the understanding that meaning is not something we discover or create, but is something that is constructed within the individual (Crotty, 2003). This approach informs the researcher about how the participant is constructing their reality through their lived experiences and within the context that they experience (Jonassen, 1991). This approach is in line with the phenomenological essence of this case study to gain insight into the individual's experience of the relationship between mental health and ultra-running.

The other important consideration to consider is the researcher's chosen counseling theoretical approach of Gestalt theory. The researchers counseling theory is important to state as it speaks to the way the researcher views experience and meaning making. Gestalt theory has the foundation that the whole of something is greater than the sum of all its parts and if you dismantle the whole, you lose the meaning and function of the whole itself (Sonne & Toennesvang, 2015). This approach serves to gain a phenomenological insight into the experiences of the participant within the context that they have been experienced and to better understand how the participant has constructed meaning of those experiences. This insight allows the researcher to gain awareness of how these experiences may lead to a better understanding of the relationship and possible uses of ultra-running and mental health.

Research Approach

Data Collection. A single participant case study was used to explore the relationship between ultra-running and mental health. Case study research allowed the researcher to explore a phenomenon that was framed by a specific space and time (Hancock & Algozzine, 2006). The researcher approached the case study through a constructionist viewpoint, which assumed that people construct meaning as they interact with the world, each other, and objects within the

world (Crotty, 2003). The case study was conducted as a qualitative inquiry to gain insight into how the participant constructed meaning from the experiences as an ultra-runner as it pertained to mental health. This qualitative approach allowed for flexibility in data collection and data analysis (Sheperis, Young, & Daniels, 2016). Case study research uses multiple qualitative data points to gain insight into the phenomenon. These data points included interviews, journaling, media review, and participant observations.

The researcher used multiple data sources to gain insight into the participant's experiences. Interviews allowed the researcher to capture the lived experiences in a deep and personal way that highlighted how the participant constructed the meaning of those experiences (Ravitch & Carl, 2016). The researcher conducted three interviews that utilized an emergent approach that allowed for the emerging of themes and areas of inquiry to arise through the sessions. The use of multiple interviews allowed the researcher to review the previous interviews to identify areas that needed further exploration or follow up.

Journaling captured the thoughts, feelings, and reactions of the participant (Hayman, Wilkes, & Jackson, 2012) through the data collection phase and allowed the researcher to gain insight into these areas during times when the researcher was not directly engaged with the participant. A documentary video review will be conducted on the documentary "Finding Traction" (2016) for relevant material to the case study. Video review allows an unobtrusive view of the participants experiences and a unique view of the relationship between the participant's mental health and ultra-running that would otherwise not be available (Marshall & Rossman, 1999).

Participant observations were used to record the participant's experiences in the context events that the study was focused on. Participant observations allowed for flexibility in the roles

of the researcher in this context that included participation in events that the study was exploring (Yin, 2009). This approach gave the researcher a unique opportunity to access aspects of the phenomenon that otherwise would have been inaccessible (Yin, 2009). Using this approach, the researcher accompanied the participant in an ultra-running event where the researcher interacted with the participant in various roles that allowed for direct access to these experiences. The researcher also observed the participant in her living environment and witnessed her daily routines, social connections, and decision making.

Data Analysis. Thematic analysis (TA) was used for data analysis to systematically look for meaning across the data sets. TA organized the multiple data sets in a manner so the researcher gained insight into how the participant made meaning of the phenomenon (Braun & Clarke, 2012). The researcher utilized the TA six-phase system to investigate the data: 1) Familiarization, 2) Generating Initial Codes, 3) Theme Search, 4) Reviewing Themes, 5) Naming and Defining, and 6) Producing the Results (Braun & Clarke, 2012). This process resulted in the identification and definition of themes that emerged and captured the essence of the phenomenon.

Credibility, dependability, confirmability, and transferability are categories of trustworthiness that are suggested for consideration within qualitative research (Bloomberg & Volpe, 2008). The researcher addressed the areas of trustworthiness using multiple data points, field notes, member checks, prolonged engagement, triangulation, and rich description of the participant's experiences. The researcher included these approaches to trustworthiness as part of the interactive model of research design (Maxwell, 2012). Maxwell (2012) identifies five aspects to the interactive model of research design that interact with each other to create reflexivity and increase trustworthiness throughout the research. These areas are: 1) Goals, 2) Conceptual

Framework, 3) Methods, 4) Validity, and 5) Research Questions.

Limitations. There are many limitations associated with qualitative research that include the researcher's perspectives, biases, and assumptions that effect the data analysis (Bloomberg & Volpe, 2008). The possibility of the participant being affected by the presence of the researcher and trying to give an answer that the participant believes the researcher wants is another acknowledged limitation (Roethlisberger & Dickson, 1939). The researcher acknowledges the existence of these limitations and will utilize the methodology described in chapter three to minimize the influence of these limitations.

Researcher's Perspectives

During the time of this dissertation the researcher was a doctoral candidate, counselor in residence in a college setting, and an active ultra-runner. The researcher brought in knowledge of mental health processes, ultra-running experiences, and how these two areas are integrated in the researcher's own experiences. These experiences and knowledge gave the researcher understanding of the context of the research topic.

The researcher acknowledges that these experiences that allow insight into the context of this research also serve as a possible bias and liability to the analysis of the data collected. The researcher reflected his individual experiences and theoretical orientation in the writing of this dissertation and committed himself to engage in self-reflection to address these biases by journaling throughout the research process. Triangulation was used to safeguard the research from these biases through multiple data points, participant checking, and checks with colleagues.

Researcher's Assumptions

For the purpose of this study three assumptions were made: 1) It is assumed that the participant exhibited truthfulness in their description of their experiences within the media being

reviewed, within the interviews that were conducted, and within the journaling during the data collection time period; 2) It is assumed that the participant participated voluntarily and continued to participate voluntarily throughout the research study and was aware of the option of removing themselves from the study at any time without consequence; and 3) It was assumed that the participant was able to distinguish the relationship between mental health and ultra-running in contrast to other possible factors that may have impacted their mental health, i.e. other forms of mental health support, or influences to run such as monetary gains.

Rationale and Significance

The rationale for this study originated from the growing need for mental health support for the growing number of people living in the United States experiencing mental health issues. The subject of this research study originated from the researcher's desire to better understand the relationship between ultra-running and mental health to approach the increasing need for mental health. Emanating from the researcher's own experiences as an ultra-runner and the experiences of encountering others who have expressed a strong relationship between ultra-running and mental health, it was the researcher's belief that this exploration was important and could possibly be beneficial to those who seek out alternative methods of mental health support.

With a greater insight into this relationship it informs those who provide or support mental health in alternative ways of helping those they serve. This study allowed the researcher to gain insight into an individual's constructed reality and perceptions of the impacts that ultra-running and mental health have had on each other. This insight also informs further research and inquiry into the possible benefits or risks that emerged through this exploration.

Definitions of Key Terminology

Ultra-running – Running distances that exceed the standard marathon distance of 26.2

miles ("What is Ultra Running?", 2013).

Ultra-marathon – A foot race that exceeds the standard marathon distance of 26.2 miles. ("What is Ultra Running?", 2013).

Ultra-runner – A person that participates in ultra-running.

Case – The object studied in case study (Stake, 1995).

Mental Health – A person's psychological, emotional, and social well-being ("What is Mental Health?", 2017).

Summary

This case study was conducted to gain insight into the relationship between mental health and ultra-running through the exploration of this phenomenon as it is experienced through a single participant who identified as an ultra-runner. This chapter introduced the mental health issues being experienced in the United States as the problem this study addressed by exploring the relationship between ultra-running and mental health for its possible future implications to address this issue. The chapter stated the research questions guiding the exploration of this phenomenon as well as the context overview of the study. An overview of the research approach was discussed, including the data collection, data analysis, and limitations, as well as the researcher's perspectives and assumptions. The chapter also introduced the rationale and significance of the case study and important definitions of key terminology. The next chapter will further discuss the conceptual framework for the case study.

CONCEPTUAL FRAMEWORK

The purpose of this instrumental case study was to explore the relationship between ultra-running and mental health through the lived experiences of a single participant. The following questions guided the process of the research study: 1) How did the individual decide to participate in ultra-running? 2) What aspects of ultra-running impact the participant's mental health? 3) How has engaging in ultra-running impacted the participant's mental health? This chapter presents a discussion about the benefits of running, our connection to nature, importance of social connectedness, the sport of ultra-running, the impacts of participating in ultra-running, and a theoretical framework used in structuring the case study.

Literature Review

Exercise is an effective strategy to help those who are experiencing symptoms of anxiety and depression as well as other mental illnesses (Paluska & Schwenk, 2000). Regular exercise has been associated with improvement of anxiety and depression symptoms and may be an important aspect to consider when looking at the management of these concerns (Mead et al., 2010; Paluska & Schwenk, 2000). Though the use of exercise as a beneficial avenue for mental health has been established, the relationship between mental health and ultra-running has not been thoroughly examined. This study will explore that relationship by examining these experiences of this phenomenon in an individual case.

Running benefits. Physical exercise is very effective toward preventing several chronic diseases such as cardiovascular disease, diabetes, cancer, hypertension, obesity, and osteoporosis (Reiner, Niermann, Jekauc, & Woll, 2013; Sothern, Loftin, Suskind, Udall, & Blecker, 1999; Warburton, Nicol, & Bredin, 2006). Specifically running has a positive impact on an individual's health and these benefits serve as a motivation for participating in running (Krouse, Ransdell,

Lucas, and Pritchard, 2011). In a study conducted by Lee et al. (2014) looking at the association between running and all-cause cardiovascular mortality risks the researchers found that running, even at low time and pace rates, drastically reduced the risk of death due to cardiovascular disease.

Running not only has physical and health benefits but also has mental health benefits as well. Physical exercise and specifically running have a significant effect on participants' anxiety, depression, and anger and may serve as a preventative for these symptoms (Bodin & Hartig, 2003; Warburton et al., 2006). Runners experience lower levels of anxiety, depression, and anger (Bodin & Hartig, 2003). The benefits of running include boosting of confidence, relieving stress, eliminating depression, and over all positive effects on mental health (Bekkala, 2016; Cattanach, 2016). The research on the effects of running are numerous, but there are few research studies conducted on ultra-running and its impacts on mental health.

Ultra-running. Ultra-runners are athletes that run events that are above the 26.2-mile marathon distance. These events commonly range from 31.1 miles (50 km) to 200 miles (321.9 km) on the upper end. Some ultra-running events range between 26.3 and 31.1 and go beyond the 200-mile distance but are rare and not usual distances. In 2016, 88,073 people finished an ultra-marathon (Ultrarunning Magazine, 2016). This report showed that 51.5% of these finishers were at the 50km (31.1 mile) distance, 23.1% at the 50-mile distance, 2.9% at the 100k (62.2 mile) distance, 8.6% at the 100-mile distance, and the other 13.9% falling in the other or fixed time categories. It also showed an age range of participants from 18–70+ range with 65.5% of participants falling in the 30-50 age range.

Ultra-running is commonly done outdoors on trails, dirt paths, and dirt roads in a variety of different environments that range from the desserts of Africa to the tops of the Rocky

Mountains. Races happen in the snows of Alaska and the heat of Death Valley and racers may encounter a variety of weather, sometimes within the same race. Ultra-runners do not have a season that they engage in this sport, but run long distances on a regular basis. These runs may be done alone, with groups, as part of a race or not, recreationally, or competitively. Some ultra-runners only race once or twice a year, if even that much, and others have made a career out of ultra-running as they travel all over the world competing and representing teams and sponsors. Unlike many other sports though, these elite athletes are not separated out from the recreational runners and are found lining up side by side with someone who is experiencing their first ultra-marathon (Ultrarunning Magazine, 2016).

Connection to Nature. Humans are becoming more and more urbanized and removed from our natural settings (Bratman, Hamilton, & Daily, 2012). As humans become more removed from nature researchers are seeing an increase of mental health issues like anxiety and depression (Bratman et al., 2012). Humans are neurologically wired to be aware of their surroundings and the safety that their surroundings provide (Bratman et al., 2012). If humans are consistently putting themselves in a position where they are in close proximity to others and removed from the open spaces that nature provides, they place themselves in a position to be at a heightened sense of arousal and protection for their safety (Bratman et al., 2012). In comparison to this, the more time humans spend in contact with nature the fewer mental health issues they experience (Bratman et al., 2012; Marselle, Irvine, & Warber, 2013).

Research has revealed that nature has a positive effect on mental health in the way of decreasing stress, increasing mood, and increasing self-esteem (Barton & Petty, 2010; Berger & McLeod, 2006; Passmore, 2011). The more time spent in nature or in contact with greenspaces the greater a person's mental health (Bratman et al., 2012; Marselle et al., 2013). There is a lower

stress level, decreased symptoms of anxiety and depression, increased memory, and an overall improvement of mental health in those that have a greater connection to nature (Berman et al., 2012; Bratman et al., 2012; White, Alcock, Wheeler, & Depledge, 2013).

Natural settings allow individuals to remove themselves from the bustling world where objects and information are constantly drawing our attention in an involuntary way (Berman, Jonides, & Kaplan, 2008). The ability to remove themselves from these environments and enter a natural settings allow people to direct their attention in a voluntary way that restores their cognitive functioning and improves their mental health (Berman et al., 2008). This restored cognitive ability allows people to resolve conflict more readily, lower stress levels, and be present in the here-and-now (Berman et al., 2008, Bratman et al., 2012).

Sharing the time spent in nature increases the attractiveness of connecting with nature and increased the effects on mental health (Marselle et al., 2013). Even the simplicity of taking a group walk within a natural setting has positive implication for participants that include lower depressive symptoms, lower levels of perceived stress, and an increase in perceived mental health (Marselle et al., 2013). Some runners have described their time spent with others and the comradery that is felt with others as one of the most significant aspects of ultra-running (Johnson et al., 2016; Krouse et al., 2011).

Social Connectedness. Humans are innately a social species. Maslow (1943) recognized the need for an individual to feel connected or to have the sense of belonging. The lack of having connectedness is a predictor of stress (Lee, Keough, & Sexton, 2002), depression (Williams & Galliher, 2006), dysfunctional interpersonal behaviors (Lee, Draper, & Lee, 2001), and other aspects of motivation and mental health issues. According to Maslow (1943), the need for connectedness falls after safety needs and before an individual can begin to work on and develop

self-esteem.

A low level of social connectedness has a direct impact on mental health such as anxiety, higher levels of stress, and increased hostility (Lee et al., 2001; Lee et al., 2002). Research has associated a lower self-esteem, social discomfort, and depression with people who have a low level of social connectedness (Lee et al., 2001; Lee et al., 2002; Lee & Robbins, 1995, 1998, 2000). Social connectedness directly relates to the prediction of depression and low self-esteem in individuals and by strengthening a person's feelings of social connectedness, you increase their social support and thus their mental health (William & Galliher, 2006).

Social connectedness and psychological health are connected and are possible predictors of the mental health of an individual (Kohut, 1984; Lee et al., 2001; Williams & Galliher, 2006). Kohut (1984) described psychologically healthy people as being able to validate their connectedness and increase their self-esteem through their relationships with others. During their study of social connectedness as a meditator model, Lee et al. (2001) found that individuals needed the ability to accurately appraise their relationships and needed appropriate interpersonal behaviors to maintain relationships. They noted that people who showed low-connectedness in their study were more likely to appraise their relationships negatively, showed dysfunctional interpersonal behaviors, and tended to avoid social situations. The participants who showed a lower social connectedness were therefore unable to validate their connectedness, which lead to a greater report of distress.

The comradery felt between individuals in the ultra-running community has been described as an important and impactful aspect of this sport (Krouse et al., 2011). This sport is a small niche of people that have shared experiences that are unique to them. In many cases they are spending hours and days with each other in environments and experiences that push them

beyond what many see as even humanly possible. This social connectedness with others creates a unique community of people who belong to the sport of ultra-running.

Impacts of Participating in Ultra-running. Research has shown what the possible health ramifications might be for those who participate in a sport that pushes the body to uncommon areas. In a study of over 1,200 active ultra-marathoners, Hoffman and Krishnan (2014) found that those participants were healthier than the general U.S. population and miss less work and school due to illness or injury than the general population. They also found that ultra-marathoners had a lower rate of seeking medical assistance from emergency providers.

We know that exercise and running has a positive effect on our mental health (Bekkala, 2016; Bodin & Hartig, 2003; Cattanach, 2016; Warburton et al., 2006), there is very little research on the mental health aspects of choosing to run at the ultra-distance level. We do know that some ultra-runners have described their time spent running is a therapeutic substitution to the more traditional settings of being in an office with a mental health provider (Karnazes, 2017). Jim Walmsley who is an American elite level ultra-runner, even discussed how his psychiatrist told him to get back to running as a part of his therapeutic treatment for his symptoms of depression (Trappe & Hermsmeyer, 2017).

The subject of mental health is very topical in the ultra-running community. The development of groups like Defeat The Stigma (n.d) that uses group runs, social media, and testimonials to bring awareness about mental health issues, and Ted talks where runners openly discuss their struggles with mental health issues and how running has helped them through these struggles (TEDxTalks, 2014, January 25; TEDxTalks, 2012, May 22) has become common. The ultra-running community fully embraces this notion of being open and discussing mental health issues and how running is helping people attend to these needs. This supports the need for

research in the areas of how ultra-running is affecting the mental health of those involved.

The current research on ultra-running does show that there are psychological benefits involved with ultra-running (Johnson et al., 2016; Krouse et al., 2011) Research has shown that some people engage in ultra-running to push their limits, both physically and psychologically, to feel accomplished and create a greater self-esteem (Bull, 1989; Krouse et al., 2011). There is a psychological motivation for some runners to put themselves in strenuous challenges and when they overcome these challenges, they can reap the psychological and emotional rewards (Krouse et al., 2011). Some benefits that are gained include greater self-esteem, self-awareness, increase in a positive mood, less perceived stress, and social connectedness with others (Johnson et al., 2015; Krouse et al., 2011; Simpson et al., 2014).

The ability to go out and spend countless hours running in a variety of environments and situations fosters and demands a level of mental toughness. Jaeschke, Sachs, and Dieffenbach (2016) explored the perceptions of mental toughness in a group of ultra-runners who were at diverse levels of participation within the sport. They found that there was a central theme when defining mental toughness of a runner's ability to keep going. The researchers identified key traits of a mentally tough ultra-runner, "awareness / perspective, can deal with physical fatigue, too crazy to know when to quit, positive self-talk, goal-oriented, committed to finish, obsessive, calm, stubborn, prepared, flexible, having mental reserves, and possessing the ability to overcome adversity" (p. 246).

The ability of ultra-runners to experience positive and negative circumstances that happen throughout a variety of environments during ultra-running events and overcome or celebrate these circumstances fosters and develops a mental toughness that can then be applied to other aspects and challenges in their lives (Jaeschke et al., 2016). One runner was quoted as

saying, "challenges will come all the time… and you should have just one thought – and that is to go all the way to the finish line" (Johnson et al., 2016, p. 79). This mentality of not giving up appears to be something that runners are able to rely on to finish races and to overcome challenges in their own lives. Jaeschke et al. (2016) suggests that the development of mental toughness may stem from their childhood experiences and the camaraderie and support offered by the ultra-running community.

The ultra-running community is a unique and small group of people who have respect for anyone who is willing to line up at an ultra-distance race (Simpson et al., 2014). Racers describe this community as being unique in the fact that runners are less competitive toward one another and are willing to support one another openly (Simpson et al., 2014). There is a photo of Cat Bradley, the 2017 winner of the Western States 100, cuddling with second place finisher Magda Boulet that is a representation of this how this sport views competition and support of each other (Bradley, 2017, June 26).

Research has found that the feeling of comradery felt between runners is a significant benefit to being an ultra-runner (Jaeschke et al., 2016; Johnson et al., 2015; Krouse et al., 2011; Simpson et al., 2014). Ultra-runners benefit by being part of this community from the comradery the participants feel with others in this community, no matter the distance between the participants (Krouse et al., 2011). This comradery supports runners by providing coping skills like humor used between people, both runners and supporters, when challenging times are experienced (Johnson et al., 2016).

A unique aspect of this community is that it not only entails people who go to ultra-marathon races and run, but also includes those people who are supporters, crewmembers, and volunteers. Racers place a heavy amount of respect toward the support that they receive from

these groups as they strive to complete these races and training regiments (Simpson et al., 2014). This support between and among runners, volunteers, elite racers, weekend warriors, and anyone who wants to be a part of this community creates strong bonds, support structures for life, and an appreciate for the sport and the people involved (Simpson et al., 2014). The members of this community engage in ultra-running to socialize with others, push themselves physically and mentally, and to experience nature, which appears to be therapeutic (Simpson et al., 2014).

Dean Karnazes (2017) finds his time in running outdoors therapeutic and replaces the need for the traditional practice of sitting in a room with a mental health professional, so in that instance running is the therapy and nature is the office. One possible supporter of experiencing a therapeutic experience is the fact that ultra-runners typically spend a lot of time in nature which increases the possibility of experiencing flow (Martinez and Scott, 2016). Csikszentmihalyi, (1990) describes flow as "a state in which people are so involved in an activity that nothing else seems to matter" (p. 4). Martinez and Scott (2016) found that there appears to be a connection between ultra-runners and an increased experience of flow, which is connected to mindfulness (Kee & Wang, 2008) a commonly used technique in many different forms of therapy. Martinez and Scott (2016) also discussed that spending time in nature had a positive effect on flow and that spending time running in nature has a positive effect on a person's well-being.

Ultra-running involves a long time doing a repetitive motion, mostly in a natural environment free of distractions, and full of time for introspection. This time spent putting one foot in front of the other is a time for meditation, a time for self-awareness, a directed focus on the here and now, and even a spiritual journey (Johnson et al., 2016; Simpson et al., 2014). It creates an opportunity to discovery parts of yourself that you do not know, learn to manage pain and negative self-talk, and experience a personal achievement of being able to overcome an

extremely arduous task (Simpson et al., 2014). Though it is not for everyone, for some ultra-running appears to be how they manage their lives and their mental health. This phenomenon that is created for an ultra-runner is what this case study seeks to better understand.

Exercise Dependency. Though research has shown many benefits of running and participating in ultra-running events, research also warns of the potential problems that can occur. Exercise dependency is an incredulous desire to engage in leisure style exercise, like running, that leads to excessive exercising that may lead to experiences that include withdrawal like symptoms, tolerance to the exercise, and symptoms of anxiety and depression (Hausenblas, & Downs, 2002). Runners who are experiencing exercise dependency begin to spend more and more time engaging in running or thinking about running to the point of it disturbing other aspects of their lives and creating a negative effect (Hausenblas, & Downs, 2002).

If a runner has become dependent on exercise to manage various aspects of their lives, they may continue to seek out running despite of the disturbances that this growing dependency is creating (Hamer, & Karageorghis, 2007). When a runner must withdraw from running due to injury or other issues that create a situation where running is not an option, runners who are showing signs of dependency have shown physical and psychological disturbances (Hamer, & Karageorghis, 2007). In ultra-running, it is not uncommon for a runner to spend multiple hours a week running, sacrificing time away from other responsibilities, and spending a lot of time thinking about or engaging in running environments when not actively running. Runners have even described their running habits as their therapy (Karnazes, 2017) and a way that they manage their psychological needs (TEDxTalks, 2014, January 25; TEDxTalks, 2012, May 22). These experiences that are described by runners have been described as a positive addiction (Glasser, 1976), but may also be described as an exercise dependency (Hausenblas, & Downs, 2002) with

negative and possibly dangerous ramifications.

Theoretical Framework

Qualitative research uses the researcher as an instrument (Ravitch & Carl, 2016); therefore, it is important to understand the researcher's philosophical basis to social research by examining the epistemological and theoretical perspectives that lead to the choice of research design and methods. Epistemology is how we know what we know, or how we create meaning (Crotty, 2003). Our theoretical perspective explains how we choose our methodology and discusses the assumptions that we bring into the research process (Crotty, 2003). This section discusses the researcher's epistemological and theoretical perspectives that inform the research design and methods discussed in chapter three.

Constructivism. Constructivism is the epistemological belief that meaning is not something that we discover or create but it is something that is constructed within the individual mind (Crotty, 2003). Jonassen (1991) discussed how we are not mere machines that take in symbols around us and interpret them from some innate meaning that the symbols hold, but constructionist believe that we construct the meaning of symbols and construct meaning through our experiences, mental structures, and belief systems. He described this as how there is no external reality, but that each person constructs their own reality through their perceptions.

This case study is exploring the relationship between mental health and ultra-running through the experiences of an individual. A constructivist epistemology directly informs the choice of using a case study and the methods used for data collection to answer the research questions. Jonassen (1991) described the constructivist epistemology as believing that we structure our reality through our experiences, as we perceive them and within the context that the experiences occurred. He also described this perspective as having Gestalt properties and having

the ability to be abstract in meaning making. This is an individualistic perspective that lends itself to the research of how an individual may perceive a phenomenon. Crotty (2003) said that this perspective mirrors the phenomenological notion of intentionality and that humans are intentionally connected to their world. He states that because of this connection between humans and their world, "no object can be adequately described in isolation from the conscious being experiencing it, nor can any experience be adequately described in isolation from its object" (p.45). This supports the use of a case study and the methods described in chapter 3 to gain insight into the phenomenological experiences of an individual.

   Gestalt Theory. Gestalt Theory is the chosen counseling theory of the researcher and highlights the theoretical underpinnings of how this research study was conducted. Gestalt is the belief that the whole of something is greater than the sum of all its parts and if you dismantle the whole, you lose the meaning and function of the whole itself (Sonne & Toennesvang, 2015). In the field of counseling, Gestalt theory believes that to understand a person it is necessary to take in the context and environment in which they exist (Corey, 2013). Because of its phenomenological roots in the belief of importance of a person's experience of reality and its existential roots in the belief that people are in a constant development and are continuously reforming themselves through their experiences (Corey, 2013) Gestalt theory is important to this study.

   Gestalt theory poses that an organism, in this case a person, must be seen in its environment and context, which is constantly changing (Corey, 2013). This concept is part of Holism that states that a holistic view is essential to gain understanding of the meaning and essence of a person (Sonne & Toennesvang, 2015). Even though there may be a focus on a specific aspect of a person's experience or reality in their awareness there is also the existence of

other parts of the whole that may not be in their awareness (Corey, 2013). A person categorizes

their experiences and realities in a horizontal aspect of time as part of the past, present, and

future, but is also part of a vertical aspect of existence that fit within themselves, as part of

something larger, and as part of what directs their lives through meaning (Sonne & Toennesvang,

2015). The influence of Gestalt theory affects how the researcher approaches the research study

and the construction of the reality and experiences of the participant. This directly affects the

research design, methodologically designed, and data collection.

 Ultra-running is a journey into the darkness, stripping you down to the bare essentials of

who you are, and challenging every aspect of who you believe you might be. It has been

described as a method of becoming intimately aware of who we are, what we are, what we are

capable of, and what we are a part of (Jaeschke et al., 2016; Johnson et al., 2015; Krouse et al.,

2011; Simpson et al., 2014). Gestalt therapy has many of the same therapeutic goals that ultra-

running offer. According to Corey (2013) Gestalt therapy has the goals of, "1) Movement toward

increased awareness of self, 2) A gradual ownership of their experience as opposed to making

others responsible for their experience, 3) A development of skills and values that will allow

them to satisfy their needs without violating the rights of others, 4) Becoming more aware of all

of their senses, 5) Learning how to accept responsibility for what they do, which includes

consequences, and 6) Having the ability to ask for and get help from others and have the ability

to help others" (p. 201-202). In many ways, ultra-running meets all the Gestalt therapeutic goals.

 Ultra-runners have described their experiences in ultra-running as creating an awareness

of self, emotionally, physically, and mentally. In a film by Trappe and Hermsmeyer (2017), Jim

Walmsley reflects on his experiences at the Western States 100 where he made a critical error

that cost him the course record as well as the win. In the film, Jim discussed the experience of

pushing himself to an extreme level for 90 miles and the physical and mental impact that that had on him. He reflected on how he faced his mistakes and the consequences of those mistakes, and how he had to ask for help from volunteers. He also discussed the agony and demoralizing feelings he faced when he realized what he had done, and how he pushed himself to continue anyway. In the film, he also talked about how the ownership of that experience has changed him as a person and as a runner. He discussed how his ability to reflect upon that moment has fueled him in a way that was inaccessible in any other way than through that experience. In his discussion of his experience, he inadvertently discussed obtaining many of the goals that Gestalt therapy has through the means of a 100-mile race.

The similarities of what ultra-running and the community that surrounds ultra-running has with Gestalt therapy is uncanny. In Gestalt therapy, the counselor believes in the ability of the client to be the expert and encourage the client to become aware of their full selves and existence (Corey, 2013). Therapists use experiments with clients to allow them to explore their perceptions of the here and now and to gain awareness of all the aspects of their reality (Corey, 2013). Ultra-running is an active experiment in a multitude of ways that cover the individuals physical, mental, emotional, and social aspects. The motivations in choosing to run, choosing to run at ultra-distances, and possibly race at ultra-distances are very individualistic but in many times, offer similar feedback. A runner will experience different roadblocks along the way and will have to experiment about how to move past those roadblocks. They will become aware of several aspects of themselves through trial and error, and will become aware of others as they encounter them. In the environment of an ultra-running race there is a community that truly supports each other in extraordinary ways (Simpson et al. 2014), which embodies the ability to accept and give help to one another.

Personal Impact Statement.

In 2013, I ran my first ultra-marathon, a 50km trail race in the hills of the Ozarks. This was a progression that stemmed from years as an adventure racer, concentrating my training on running, running my first marathon, and then stepping up to the ultra-marathon distance. Since this time, I have attempted six ultra-marathons and completed five of them. I have also found myself identifying as part of this community of ultra-runners.

During my time as an ultra-runner, I have found that my physical health has increased and that my energy levels and stamina have increased in all areas of life. I have also found a sense of peace and moments of relaxation out on the trails. As a part of the community of ultra-runners, others have embraced me through my experiences and I have created bonds that hold special meanings. I have also experienced the self-exploration and growth as a person that comes from accomplishing something so difficult. I display things on my car and wear things that show that I am part of this community. I have found an identity, a pride, and a comfort of being associated with this community. For these reasons, I feel compelled to explore the experiences of others within this community to understand better how this may bring insight into what aspects of this experience is shared by others and if so, what aspects may be further examined to bring possible treatment and guidance for those experiencing mental health issues.

Summary

This chapter outlined the conceptual framework guiding this research study. A literature review of the current available literature and research was presented for the reader. The literature review included literature on the known benefits of running, ultra-running, the relative connection to nature, meaningful social connectedness, the impacts of participating in ultra-running, and research on exercise dependency. The chapter also discussed the theoretical

framework that the researcher is using when approaching the exploration of this case study. This section discussed the theoretical approach of constructivism, the researchers grounding in gestalt theory as it applies to the research study, and the personal impact statement of the researcher. The next chapter will discuss the methodological design of the case study.

METHODOLOGY

The purpose of this instrumental case study was to explore the relationship between ultra-running and mental health through the lived experiences of a single participant. The following questions guided the process of the research study: 1) How did the individual decide to participate in ultra-running? 2) How has the choice to participate in ultra-running impacted the individual's mental health? 3) What benefits and risks of ultra-running on mental health can be identified through the experiences of the participant? This chapter will address: (a) Rational for the research approach, (b) Participant information, (c) Data collection methods, (d) Data analysis, (e) Issues of trustworthiness, (f) Limitations, (g) Ethical considerations, and (h) Summary of the chapter.

Rational for Research Approach

Rationale for Qualitative Research Design. The researcher used a constructionist viewpoint as the lens when conducting the research study. Constructionism is the belief that people construct meaning as they interact with the world, each other, and objects within the world (Crotty, 2003). This viewpoint about how individuals create meaning from their experiences is the basis for the need of a qualitative research method to gain insight into this phenomenon. Qualitative research is a method used to gain insight into how people make meaning of their experiences through the exploration of their views, approaches, and experiences (Ravitch & Carl, 2016). Qualitative research has an emergent nature to it that allows for flexibility in the gathering and analysis of the data, giving the researcher the ability to gain insight into the experiences of the participants through the context in which it was experienced (Sheperis, Young, & Daniels, 2016).

Rationale for Case Study Design. Instrumental case study designed research is used to explore a phenomenon that is framed by a specific space and time (Hancock, & Algozzine, 2006). The phenomenon is how mental health affected an individual's choice to participate in ultra-running and how this choice has in return, affected her mental health. A case study research design explores an individual's experienced realities in an in-depth way that quantitative research is unable to capture. It uses multiple qualitative data points to gain insight into the phenomenon being studied (Hancock & Algozzine, 2006; Stake, 1995). Yin (2009) proposes that a case study explores a current phenomenon in its real-life context, specifically when the phenomenon and the context appear to be related or intertwined, and there is no control of the events by the researcher.

Case studies are instrumental, intrinsic, or collective (Hancock & Algozzine, 2006). This case study will be approached with the goal of using it as an instrumental study that will explore if ultra-running has aspects that would benefit the mental health of an individual and if so what aspects may be considered further to address the need for more approaches to addressing mental health needs. This individual case study will explore the perceived relationships between mental health and ultra-running in an individual who has identified with the phenomenon. Case studies are exploratory in nature and use a thorough descriptive process that follows a series of steps using multiple data sources to understand and convey the realities of the individual as it pertains to the subject being examined (Hancock & Algozzine, 2006; Yin, 2009).

Participant

Identified Case Participant. The participant in the case study will personally identified as an ultra-distance runner. The participant also identified as having mental health impacts on the choice to become an ultra-distance runner and having had her mental health impacted by the

choice of becoming an ultra-distance runner.

Data Collection Methods.

It is imperative that there is a use of multiple data sources to gain an in-depth view of the phenomenon (Bloomberg & Volpe, 2008; Braun & Clarke, 2012; Ravitch & Carl, 2016; Yin, 2009). This case study sought out to employ multiple data sources, which included the use of interviews, journaling, documentary video review, and participant observations. The following is a description of these data collection methods and the way they were implemented in this study.

Interviews. Interviews are a way for a researcher to capture these lived experiences so they may understand them. Interviews can provide deep and personal data that allows the researcher to have insight into how the participants construct and understand their experiences (Ravitch & Carl, 2016). This process gives the researcher the opportunity to receive, interpret, and record the interaction of the interviewer and the interviewee as they co-construct the story and its meanings (Holstein & Gubrium, 1995). This co-construction is an active process that is constructed through interviews and is part of the larger process of the research to produce meaning (Holstein & Gubrium, 1995). This helps to satisfy the goals of qualitative interviews, which look to gain insight, understand the construction of reality about the phenomenon, and explore how their experiences relate to experiences of others who have encountered the phenomenon (Ravitch & Carl, 2016).

This study used three in-depth semi-structured interviews to encourage the participant to share her story openly so the researcher could capture the experiences and perceptions of the participant from her reality and not from the perceptions of the researcher (Hancock & Algozzine, 2006). An emergent approach to interviewing allowed for emerging themes and areas of inquiry to arise during the session and progress into structuring the next session. Probes during

the interview encouraged the participant to elaborate on their experiences for greater insight and

clarity (Starks &Trinidad, 2007). According to Jacob and Furgerson (2012), this allowed for

flexibility in the interview process to pursue avenues or ask questions that were not on the script.

The use of multiple interviews allowed an in-depth exploration of the experiences of the

participant. It also allowed the researcher to contemplate on the previous interviews and follow

up on any lines of inquiry raised during review of the previous interview, and allowed the

participant to add to or edit any part of the information given in previous interviews. As part of

this approach, the researcher presented himself as a "listener of the story of the participant"

(Starks & Trinidad, 2007, p. 1375).

  Journaling. Journaling captures the thoughts, feelings, and reactions of a client in their

natural setting and within the specific context that the study is focused (Hayman, Wilkes, &

Jackson, 2012). Journal documentation during the data collection phase allowed the participant

to reflect on thoughts, feelings, and reactions to the subject of the case study at times when the

researcher was not available. The participant kept a journal through the process of the case study

data collection period so that these reactions reflect her experiences of the present moment. The

participant was not required to write daily but was encouraged to write down any experiences

relating to the subject manner that came up during the data collection period.

  Some challenges to the process of using journaling as a data point include participant

participation, participants feeling overexposed, and participants staying on track with the purpose

of the journaling (Hayman et al., 2012). Hayman et al. (2012) have identified ways for

researchers to overcome these challenges. Participants may not be excited or want to engage in

the journaling, or may just forget to journal at times. The authors suggest that a researcher should

stay engaged with the participant by using prompts, encouragers to do the journaling, possible

questions or topics to focus on, and keeping a time limit on the journaling. Hayman et al. (2012) recommends that a researcher promote comfort and increasing safety measures to help participants feel less vulnerable in the journaling process. This may include privacy statements on the journaling pages and setting up secure transfer of information from the participant and the researcher. The authors address the challenge of staying on track by recommending that researchers be very specific in the clarity and expectations of the journals when instructions are given.

Documentary Video Review. Video review allows a researcher to gain a powerful insight into events by capturing the experiences in the moment, showing non-verbal behavior, and a separate account of the material currently being investigated (Marshall & Rossman, 1999). With the use of video review, the researcher can gain insight into previous events that document the participants past experiences, statements and reactions, and others statements and reactions that would otherwise not be available. This data can then be compared to the current data being collected through the case study.

The participant has a video documenting her attempt to set a new fastest known time (FKT) on Vermont's Long Trail. This documentary is titled "Finding Traction" and was filmed in 2016. The documentary was used as an outside source of historical data involving the relationship of the participant's mental health and ultra-running. The use of the documentary as an unobtrusive data source set it apart from the bias or influence of the researcher and removes the possibility of the Hawthorne Effect (Roethlisberger, & Dickson, 1939) that is seen when participants answer questions or focus on aspects that they believe the researcher desires to focus on.

The researcher examined the documentary video for related material and was able to gain an insight into an ultra-running experience by the participant, a separate interview in which she talks about her mental health, and insights into her experiences with ultra-running. The documentary video was used as a historical triangulation of the data that was collected during the case study.

Participant-Observation. One unique data collection method is the use of participant-observation. This method is different from direct observation due to the nature of the researcher taking on various roles within the research study, including possibly participating in the context events that the study is focusing on (Yin, 2009). The use of participant observation provides the researcher with a unique perspective to the case study participant in the context of the phenomenon. Yin (2009) suggests that this approach allows the researcher to gain access to aspects of the study that might otherwise be inaccessible, which may lend itself to a valuable "accurate" view of the case study phenomenon.

Yin (2009) acknowledges four challenges with this approach; 1) the researcher may lose some ability to act as an external observer, 2) the researcher may become a supporter of the phenomenon, 3) the participant role may become more important or time consuming for the researcher to be an observer, and 4) the group may become too dispersed to observe adequately. To address these concerns, there is only one research participant, there are boundaries for expectations and considerations for the participation of the researcher, and the researcher included a detailed explanation of his engagement in the ultra-running community.

To accomplish the participant-observation, the researcher attended an ultra-running event with the participant to witness the process the participant experiences before, during, and after an ultra-distance event. The participation involved the researcher's physical presence, the support of

the participant before, during, and after the event, and other activity during the event. The participant and the researcher discussed expectations and boundaries for the participant and the researcher before entering the participant observation. The researcher also acquired the verbal consent of those in participant observation two who were acknowledged within the case study. The researcher utilized field notes, recordings, and video footage to record the experience of the researcher and participant.

Data Analysis

Data analysis allows the researcher to gain insight into the meaning of the experiences of the participant. Thematic analysis (TA) is a method of data analysis that systematically looks for meaning across the data sets, which allows the researcher to organize the data in a manner so the researcher can gain insight into how the participant makes meaning of the phenomenon (Braun & Clarke, 2012). TA looks at multiple data sets and not a single data set to draw these meanings, allows for a contextualist framework, and is exploratory in nature (Braun & Clarke, 2012). For these reasons, TA was chosen as a data analysis method for this study. The researcher will look for thematic meanings using an inductive production of themes stemming from the content of the data. TA identifies these themes using six phases of data analysis systematically (Braun & Clarke, 2012).

Braun and Clarke (2012) pose a six-phase system to TA that allows the researcher to investigate the data collected thoroughly. In phase one, the researcher became intimately familiar with the data by immersing himself through reviewing the data multiple times, personally transcribing audio and visual data, and using field notes during this process. Braun & Clarke (2012) encourage researchers to begin to ask questions about how the data speaks to the participant's experiences and what themes are beginning to emerge. In phase two, the researcher

developed initial codes that emerged in the material. TA does not require that the material be coded by each line and allows for the flexibility of codes to be developed from the participant's words, themes emerging, or reflections from the researcher (Braun & Clarke, 2012). In phase three, the researcher explored the codes to identify themes that connected within the data and related to the research questions. Clusters of codes and codes that overlap in the multiple data sets were explored for themes that connect them or were representative of the codes. In phase four, a review of the potential themes acted as a quality check to see if the themes match the coded material and if they were connected to the research questions. During this phase, the themes were analyzed for quality, whether they were supported by enough data, are if they were to broad or to narrow, and how they related to the entire data set. In phase five, the researcher identified the essence of each theme by defining and naming the theme. Braun and Clarke (2012) describe good themes as not overlapping, having a singular focus, and directly relating to your research questions. In the final phase, the researcher reported on the findings of the analysis. Braun and Clarke (2012) suggest that this is not a phase that is completed at the end of the analysis, but is done throughout the process through field notes, memos, and the more formal writing of the analysis. The researcher used TA as the overarching data analysis process of all the data sets described in more detail in the following paragraphs. Figure 3.1 shows the flow of the thematic analysis process.

This research study used semi-structured interviews, journaling, documentary video review, and participant observation to collect data. Field notes were a first step of data analysis during the data collection process. This process captured the researcher's thoughts and observations in the moment (Ravitch & Carl, 2016, p. 145). Field notes were a way for the researcher to record his/her observations, reactions, thoughts, and contextual meanings of the

interview process. Field notes when used as a triangulation method of data, can also strengthen

the trustworthiness of the study.

Familiarization

- Transcription
- Reading Data
- Re-reading Data
- Begining to ask questions

Generating Initial Codes

- Pre-coding
- Use of participans words
- Reflections of researcher

Theme Search

- Code development
- Code clusters
- Theme search in and across data

Reviewing Themes

- Quality check
- Connection to research questions

Naming and Defining

- Not overlapping
- Singular focused
- Related to research questions

Producing the Results

- Finalize themes
- Report findings

Figure 3.1. **Thematic analysis sequencing for the development and reporting of themes found within data. Adapted from Braun, V. & Clarke, V. (2012) Thematic analysis. In H. Cooper, P.M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds),** *APA handbook of research methods in psychology, Vol.2: Research designs: Quantitative, qualitative, neuropsychological, and biological* **(pp. 57-71) Washington, DC: American Psychological Association**

The researcher used the field notes to gain insight into the experiences of the participants

when the researcher continued to review them over time (Ravitch & Carl, 2016, p. 116). Field

notes can create potential challenges as well. Ravitch and Carl (2016) suggest that field notes; 1)

cannot be transferred out of their context, 2) can cause biased thoughts and assumptions to be coded as unbiased data, 3) can cause reactivity creating unnatural responses in the participant, 4) may be decontextualized if they are incongruent or inconsistent, and 5) can create inaccurate interpretations that are based on inferences of the researcher.

The semi-structured interviews were audio recorded and video recorded so that the researcher was able to review the interviews and create transcriptions of the interviews. Transcripts are the written version of the interview data. According to Bailey (2008), transcription is an essential first step in the data analysis process due to the nature of repeatedly listening to the interviews and is essential to the first stage of TA. The transcriptions serve as a representation of the data as well as an interpretation of the data as well (Ravitch & Carl, 2016). Transcriptions are orthographically reproduced so they are as close to verbatim as possible. The use of audio and video recordings allowed a thorough detailed transcription of the interview that will include verbal and non-verbal communication from the participant. This allowed the transcript to represent the participant's experiences as closely as it could. Ravitch and Carl (2016) note that this does not ensure objectivity or rigor within the transcriptions.

The participant observation is similar to a non-structured interview process, which is recorded through written, audio, and possibly visual recordings. A transcription of these recordings shows the same detail as the semi-structured interview transcriptions. The use of the participant observation also included a recording and transcription of the reactions and experiences of the researcher in the context of the phenomenon. This included a rich detail of the interactions of the researcher and participant with other people in the environment of the ultra-distance race, various input sources from other people in the setting, and a rich description of the environment.

During the data collection phase, the participant created a written journal that captures her current thoughts, emotions, and reactions to the current time and to the process of the research study. The journals that the participant completed stand as a written transcript from the participant. The documentary video was reviewed for relevant material and served as a historical document of the participants experiences.

Once the transcriptions had been prepared, the researcher reviewed the material by reading each transcript. This process began the second phase of thematic coding of the data. This process is the generating of initial codes, and includes the use of precoding. Precoding is a form of open coding and allowed the researcher to question the data, form preliminary codes, and become very familiar with the data (Ravitch & Carl, 2016). During the review of the data collected, the researcher actively asked questions about any emerging themes or codes, how they effected the data collection process, the richness of the data, and if the data was addressing the research questions. Ravitch and Carl (2016) noted that the precoding process is an important analytical step that helps to set the stage for coding and to help adjust or refigure your design.

The precoding memo sets up the more formal coding aspect of the data analysis. According to Ravitch & Carl (2016), coding is the process to assign meaning to the data collected. They see coding as being both inductive and deductive. This means that the coding process can provide the researcher with insight that is coming from the data, inductive, or it allows the researcher to use theories, literature, and readings to recognize and highlight themes within the data, deductive (Ravitch & Carl, 2016). This phase led into phase three and the identification of possible themes using axial coding. Axial coding identified themes or patterns within the data that helped the researcher gain insight into how the data was beginning to group together (Ravitch & Carl, 2016). Braun and Clarke (2012) describe themes as a method to

capture important aspects of meaning in the data as it in relation to the research questions.
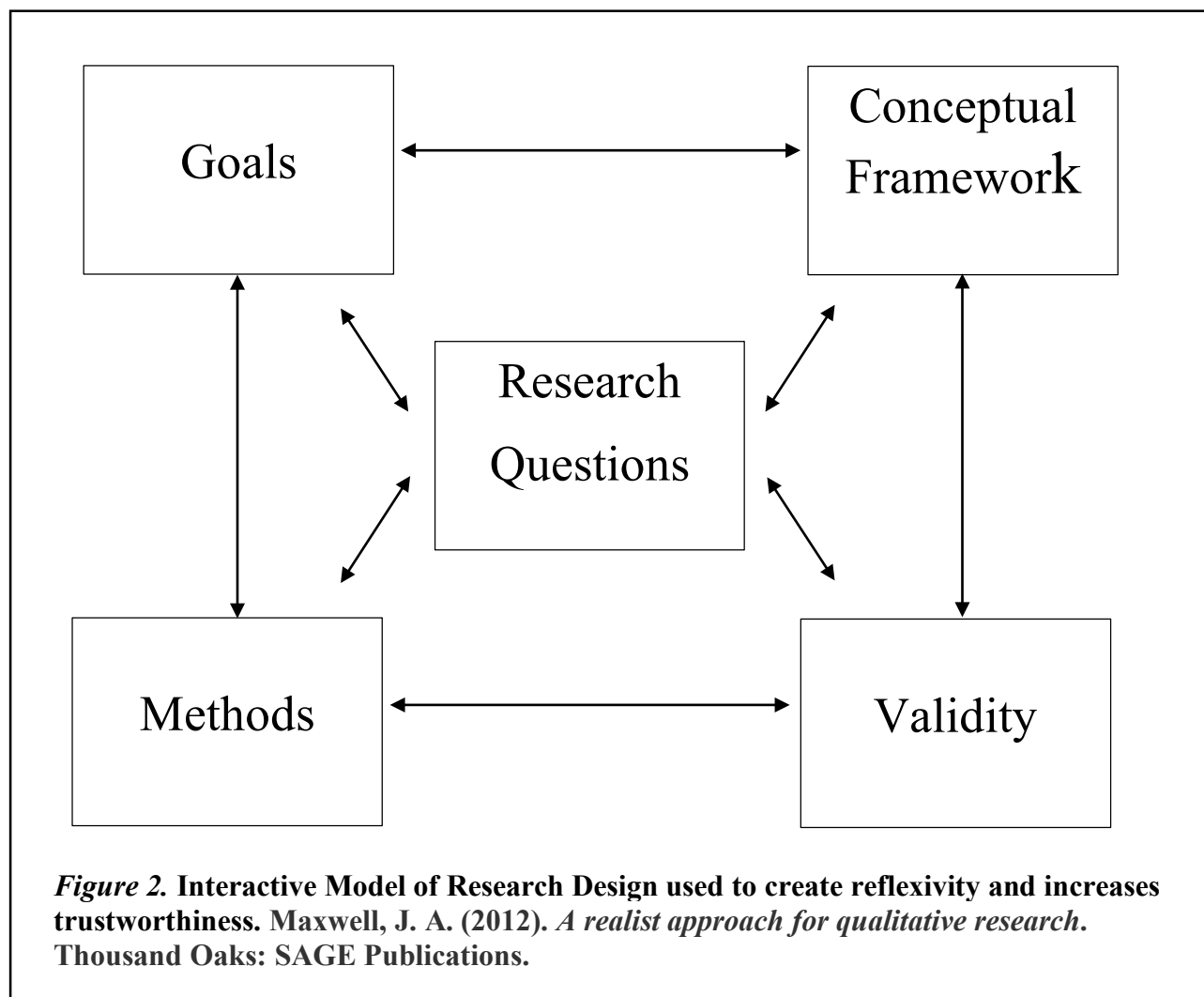
Once there were identified groups or clusters of codes that have formed, the researcher began to form themes. Ravitch and Carl (2016) noted that these themes are what the essential concepts of the data are and that they are informed by the research questions, theories you are working from, and the literature review. This process is phase four and involved reviewing the data for quality and deciding if themes were needed, appropriate, needed revising, or combined. The essence of the data was represented through the naming and definition of each theme that was identified through the thematic analysis.

Issues of Trustworthiness

Trustworthiness is an important aspect to take under consideration when approaching data analysis (Bloomberg & Volpe, 2008). Traditionally, research has been judged by its validity, reliability, objectivity, and generalizability (Bloomberg & Volpe, 2008). Current thought in qualitative research challenges the appropriateness of these terms and encourages the use alternative terminology such as credibility, dependability, confirmability, and transferability. For this dissertation, the current qualitative terminology is used to discuss these areas as part of the trustworthiness of the research study.

Credibility. Credibility, also known as validity, is the aspect of whether the findings of a research study is accurate in relation to the viewpoint of the researcher, the participant, and the reader (Bloomberg & Volpe, 2008). Bloomberg and Volpe (2008) pose that credibility includes the methodological and interpretive validity of the research design. They describe methodological validity as addressing whether the method of the research design matches the types of questions asked by the researcher and the type of results the researcher is looking for. They suggest that the researcher needs to consider the "interrelationship between the study's

purpose, conceptual framework, research questions, and methods" (p. 86). The researcher used a reflexive process through the Maxwell's (2012) Interactive Model of Research Design to address this consideration.

Figure 2. **Interactive Model of Research Design used to create reflexivity and increases trustworthiness. Maxwell, J. A. (2012).** *A realist approach for qualitative research.* **Thousand Oaks: SAGE Publications.**

The Interactive Model of Research Design (Maxwell, 2012) created a reflexive atmosphere that allowed the researcher to address the goals, research questions, methods, conceptual framework, and the validity of the research throughout the study, which added to the strength of trustworthiness within the research design (Ravitch & Carl, 2016). Ravitch and Carl (2016) suggest using a reflexive process throughout the data analysis to increase trustworthiness.

This process includes the reviewing of the field notes, specific questions within the precoding memo that address researcher bias and influence, and the use of multiple coding to engage in the analysis of how the researcher is approaching the data analysis. Figure 3.2 represents the reflexive process of the interactive model.

Bloomberg and Volpe (2008) describe interpretive validity as addressing how valid the data analysis and interpretation is. They describe multiple ways of showing evidence of interpretive validity, which include clarifying any researcher bias, using prolonged engagement, using multiple sources of data, using triangulation, and using member checks. This research study used each of these methods throughout the data collection, thematic analysis, and report development to address the area of interpretive validity.

Prolonged engagement is a strategy used by qualitative researchers where the researcher spends lengthy periods with the participants to check for perspectives and allows the participants an opportunity to become comfortable with the researcher (Krefting, 1991). Due to the nature of the data collection and the involvement of interviews, documentary video review, and participant observations this study creatde a prolonged engagement. This increased the ability for the researcher to identify themes within the data and ultimately increased the credibility and trustworthiness of the study (Krefting, 1991).

The researcher usde triangulation of data as part of this data collection. Triangulation enhances the validity of the research by looking at the experiences of the participant's experiences of the phenomenon from the standpoint of various sources of data at various times and in different settings (Ravitch & Carl, 2016). The data source variations that were in the areas of time and settings. There were three interviews conducted with the participant at three separate times. The first interview focused on how she decided to participant in the activity of ultra-

running and her journey since making this decision. The second interview focued on emerging information and inquiries from the first interview. The third interview was formatted in accordance with the information that had been discussed thus far and looked to fill in any holes or inquiries that had not been addressed. The utilization of field notes to record the thoughts and reactions of the researcher during data collection served as a method of triangulation.

In addition to the three interviews, the ability to gain a historical aspect of the participant's experiences through the documentary video review, a current journal of her thoughts, emotions, and reactions, and the participant-observations allowed the researcher to access different time points of her experiences in ultra-running and different settings throughout time. This triangulation method of data allowed the researcher to gain various developmental perspectives on the phenomenon.

Dependability. Dependability in qualitative research is the consistency and dependability of findings within the data sources (Bloomberg & Volpe, 2008). Bloomberg and Volpe (2008) discuss the need for the researcher to identify any inconsistencies within the data and acknowledge them. The authors recommend that researchers use documentation of all procedures and report in a way that shows the use of codes and themes in a consistent manner throughout the research study. The researcher used member checks to ensure that the coding of the data and themes generated matched the experiences and reality of the participant (Bloomberg & Volpe, 2008). The participant reviewed all of the findings, interpretations, and conclusions to check for accuracy with her perceptions and reality of her experiences. The use of a journal by the researcher to create an audit trail of the data analysis and procedural decisions documented the process to create a greater amount of dependability.

Confirmability. Bloomberg and Volpe (2008) describe the notion of confirmability as the ability to identify the findings of the data are derived from the data itself and not from the "biases and subjectivity of the researcher" (p.87). They suggest that the use of a journal as an audit trail, field notes, and transcripts to accomplish this. The researcher also used a personal impact statement to be transparent in this process. These methods allowed the researcher to continue to be reflexive through the entirety of the research study.

Transferability. This case study explored the relationships between mental health and ultra-running in this specific context, and may have the ability to be transferable to other contexts. The idea of transferability relates to the quantitative concept of generalizability, but it does not look to generalize the findings to a broad context but addresses how reader might transfer the findings of this phenomenon in this context into another context (Bloomberg & Volpe, 2008). Yin (2009) poses that case study research is not meant to be generalizable to "populations or universes" but are generalizable to theoretical propositions. The use of rich descriptive in the analysis of the data added to the ability of a reader to identify what aspects of this case study are applicable in other contexts and future research.

Limitations

There are many limitations associated with qualitative research as well as case study design (Bloomberg & Volpe, 2008; Yin, 2009). Bloomberg and Volpe (2008) identified that qualitative research characteristically has a limitation of a researcher's perceptions, biases, and assumptions effecting data analysis. Yin (2009) furthered this sentiment by examining different sources of data collection and the limitations involved in each one. He found that documentation has a limitation of biased selectivity and reporting, interviews have the limitations of researcher bias within question development, response bias, and the desire of the participant wanting to give

a "right" answer to the researcher, also known as the Hawthorne Effect (Roethlisberger & Dickson, 1939), Management and the Worker, Harvard University Press, Cambridge, MA.). Yin (2009) also discussed the limitations of participant observation as having the possibility of altering the event due to the observation of the event by the researcher as well as the possible manipulation of experiences within the event. The researcher acknowledge these limitations utilized the methodology provided in this chapter to minimize these limitations.

Ethical Considerations

The protection of the participant of this study is the foremost importance. It is the responsibility of the researcher to both inform and protect the participant through the use of informed consent, protecting information that is gained, and acquiring an IRB approval before any data collection is initiated (Bloomberg & Volpe, 2008). The participant has the right to confidentiality and anonymity, the right to be protected from any form of physical, emotional, or psychological harm, and has the right to withdraw from the research study at any time without penalty (Hancock & Algozzine, 2006).

Due to the nature of a single participant case study and the reporting of findings there is a limitation to the anonymity and confidentiality that can be delivered by the researcher. The limitations of confidentiality and anonymity are reflected in the informed consent (See Appendix A) and were discussed with and approved by the participant before any data was collected. Some data sources are public knowledge, but were included in this discussion and approval with the participant. All collected data will be kept on a password-protected file that the researcher had access to exclusively. The use of the phrase "The Participant" or "She" will be used in place of the participant's name within the reporting of this case study.

Informed Consent. The participant in this study received an overview of the study including the case study objectives, procedures that include the expected time commitment to the study, risk and benefits in the research, and the confidentiality and limitations to confidentiality of their personal information. The participant was contacted via email about their interest in participating in the study, the participant had the right to participate in the research and the freedom to decline or withdraw from the research at any time without penalty or loss. The informed consent documents were signed and collected before any interviews or data collection began. The informed consent was delivered to the participant via email and was returned in a signed electronic format. This was to assure the understanding of the study and the confidentiality and limitations of confidentiality of the research as well as the understanding of participation and time commitment of the research. The participant was able to obtain further information and was able to ask questions to the researcher related to the study during the time of the research. The researcher provided the appropriate contact information, which included an email address and phone number for ease of access to the researcher.

Summary

Case study research allowedd the researcher to gain an in-depth view of a context and time limited phenomenon (Hancock & Algozzine, 2006; Yin, 2009). This qualitative approach to research had purpose of exploring the relationship between mental health and ultra-running as an instrumental design. This chapter explored the methodology of this case study, implored in this exploration. The use of interviews, journaling, documentary video review, and participant observations created multiple data sources for the researcher to examine through thematic analysis. The chapter discussed how data analysis was approached utilizing thematic analysis and how it addressed issues of trustworthiness, limitations, and ethical considerations.

PRESENTATION OF FINDINGS

The purpose of this instrumental case study was to explore the relationship between ultra-running and mental health through the lived experiences of a single participant. The following questions guided the process of the research study: 1) How did the individual decide to participate in ultra-running? 2)What aspects of ultra-running impact the participant's mental health? 3) How has engaging in ultra-running impacted the participant's mental health? Data collection was conducted using two participant observations, three semi-structured interviews, multi-media sources, and journaling. There were three findings that emerged from the data collection. The chapter will present the following areas; (a) Characteristics of the participant, (b) Description of participant observation settings, (c) Presentation of the findings, and (d) Summary

Characteristics of the Participant

The participant was a 46-year-old white singe female who identifies as an ultra-runner. The participant holds a master's degree in physical therapy and works as a physical therapist part time, a running coach part time, and a motivational speaker part time. The participant first competed in an ultra-distance race in 1999. Since that time she has competed in multiple races, expedition runs, and training runs at ultra-distances on a regular basis. Through these experiences she established herself as one of the most successful ultra-runners in the world, winning 100's of races, setting many records, and establishing a known identity within the ultra-running community. Due to her success the participant has been a sponsored ultra-runner since the early 2000's and has represented various companies.

The participant was an individual who has been diagnosed with recurrent episodes of Major Depression. The participant uses anti-depression medication that is prescribed to her through a psychiatrist to help manage her depression. The participant has used various anti-

depression medications since 1994 under the advice of a psychiatrist. The participant experienced her first bout of depression in 1994. This was in the midst of her training for the 1998 Winter Olympics in the discipline of biathlon. The participant reported that she lost a significant amount of weight, struggled to complete simple tasks, had a decrease in motivation, and was unable to attend work at times. The participant was outspoken about her experiences with depression and has shared these experiences through interviews, presentations, and documentaries.

Participant Observations

The participant observations were conducted at two different points in time and in two different environments. This allowed the researcher to have multiple points of access to the participant and increased the ability of the researcher to gain data pertinent to the research project. The researcher was aware of the risks of participant observation as they are identified by Yin (2009); 1) the researcher may lose some ability to act as an external observer, 2) the researcher may become a supporter of the phenomenon, 3) the participant role may become more important or time consuming for the researcher to be an observer, and 4) the group may become too dispersed to observe adequately. With this knowledge the researcher did not insert himself in any roles that were not necessary for the observation to occur, he allowed there to be an unstructured and natural occurrence to the conversations and interactions, kept field notes recording the thoughts and observations of the participant observation, and had adequate contact with the participant.

Participant Observation 1. Participant observation one was conducted December 16th, 2018 through December 17th, 2018 in Chattanooga, TN. The participant observation was centered around the Mt. Lookout 50 mile trail ultra. The participant observation included time

spent with the participant the night before the race, the morning before the race start, various times during the race, immediately after the race, and the evening following the race. The participant had a friend who joined her for the trip and was part of the interactions between the researcher and the participant throughout the observation. The environment of each interaction within the participant observation was important to understand as an insight into the setting of each encounter, into the culture of the community, and how the participant interacts within each environment.

The initial face to face contact between the participant and the researcher happened the night before the race at her hotel room as she and her friend were preparing for the race the next morning. The hotel was a casual environment and was not structured in any formal way. The participant had been travelling all day from Bozeman, MT to reach the race location. Due to complications with weather the participant arrived a day later than she had intended and arrived late in the evening, leaving her very little time to settle in and prepare for the race the next morning.

The next morning at 6:30 am, the researcher met with the participant at the race start. The temperature outside at the race start was very cold (23 degrees). The race start was located in a gravel parking lot in a secluded area on top of Mt. Lookout and was situated at a trail head that the race utilized. The race directors had situated two fire pits for people to warm by; a volunteer tent where runners could check in, get breakfast, and fill water bottles; a warming tent that contained a wood burning stove; and a table of merchandise for sale as well as a free trade box with gear that was free for racers to take or leave unwanted gear.

During the race the researcher was mobile along the race course and met with the participant at different points (3 separate times called aid stations) of the race. At these aid

stations the participant had gear and supplies that she took and left with the help of the researcher. These observations were brief in nature and only lasted for a maximum of 3 minutes.

The race end was at the same location with the same amenities as the race start. The temperature was warmer at that time (50 degrees). There was an arch that signified the end of the race, a running timer for the race, and an announcer introducing each racer as they finished. There was a volunteer table with rewards and items that the racers received at the end of the race, a food table for the race finishers, and a podium stand.

The observation between the participant and the researcher during the evening following the race was conducted at a local restaurant that was casual and had lounging areas to eat in. The restaurant served their food in a communal style with everyone at our table sharing large plates of food. There was discussion that happened once we returned to the hotel. The participants friend joined us at all locations. At the end of the night the participant observation concluded and field notes were recorded.

Participant Observation 2. Participant observation two was conducted in Bozeman Montana where the participant resides. The participant observation took place over four days from March 17, 2018 through March 21, 2018. The participant observation was centered around the participants living space, daily routines, social structuring, and activities associated with ultra-running. The observation was used to gain insight into how ultra-running and mental health are related within her every day environment and how the participant has structured her life as it pertains to these areas.

The participant's living environment was filled with running and various other endurance sports medals, trophies, memorabilia, and gear. The participant has surrounded herself with elements of ultra-running and the gear that allows her to stay active at all times of the year. The

pictures found in Appendix D are examples of the participants living space. The researcher was able to observe the participant in her environment as she prepared meals, prepared for the day of activities, and interacted with others. The participant and researcher had unstructured conversations that naturally arose through the observation.

The researcher observed the participant with her running group as they gathered together for an 8-mile training run and then gathered together for a going away party for one of their members. The party was held at one of the member's houses where the group came together to share in a potluck dinner and say good bye to a group member who was moving away. The observation was used to gain an insight into the social structure and support that the participant encounters with those she runs and races with at ultra-distances. These experiences gave the researcher insight into the discussions that are shared between the participant and her running partners both while running and while in a casual setting.

During the trip the researcher was able to observe the participant skiing for a day. The day was spent at Bridger Bowl ski area outside of Bozeman and included the participant and researcher having open discussions that were unstructured and arose naturally through the observation of the activity. At the end of the day the participant decided to run an additional 9 miles that was observed by the researcher.

Presentation of Findings

The following is a presentation of the findings of the case study and examples to support each finding. The researcher uses "thick description" (Denzin, 2001) to present the findings so the reader can gain insight into the participant's experiences. The use of quotations from the participant, observations made by the researcher during participant observations, and the use of outside media resources create a depth of data that support the findings.

Finding 1: The participant's journey to being an ultra-runner developed over time.

The first ultra-distance race that the participant engaged in was the 1999 Pisgah Mountain 50k trail race in New Hampshire. Even though this was the first time the participant was involved in an ultra-distance race, her journey to be an ultra-runner started when she was very young. The participant grew up with the opportunity to be outdoors in nature a lot and talked about how these experiences created a fondness for being outdoors and for using exercise and running as a form of play. The participant stated, "I was always in the woods running around, just like that was my form of play." These early experiences set a blueprint of what fun was and where to find it that was still apparent in the participant's life. The participant was introduced to racing at an early age.

At the age of three the participant was introduced to cross country skiing as a competitive sport. Cross country ski racing was a family activity.

> I mean my parents got me skiing because they ski and I just got super competitive about it. I don't know why that is. I mean they took my brother who was 4 years older than me so I was always going to races when I was a tiny tiny kid. So like that was my first experience with racing. (Interview #1)

The early exposure to racing was something that she talks about with admiration and was very proud of her competitive nature that was tied back to these early experiences. The exposure to cross country ski racing set the stage for her continued practice of trail running and served as a way for her to train for skiing in the off season.

Trail running was something that the participant enjoyed when she was young. The participant used trail running for a way to escape into nature, a way to play and have fun, and a way to train for her cross country ski races.

> I ran trails before roads back in the 70s and 80s just as you know like you know an eight-year-old going running. And then I was ski racing seriously since childhood and we trained for skiing by running. (Interview #1)

The relationship that the participant had with running and the outdoors was one based on positive experiences and one that led to positive results in racing. At that time though, running was more of a bi-product of her engagement in cross country skiing and bi-atholon racing. It was not until Graduate school that she started to see running in a different way.

While the participant was in her graduate studies the meaning of running changed and she began to see it in a different light.

> So running was never a focus in and of itself until graduate school. In grad school I started running and racing for the running sake instead of for the skiing sake. Also, I ran during grad school because it made me, I knew it made me think better. (Interview #1)
> Running was no longer just a bi-product of her other sports endeavors, but it was

beginning to have its own place and importance in her life. The participant talked about how she had turned to running after she had to step away from pursuing the 1998 Winter Olympics as a bi-atholon racer. The reasons for the withdraw and how the relationship between running and her mental health will be further examined later in the chapter.

The participant speaks frequently about the early turn to running in her graduate school and how that time truly started her journey as a runner that led to where she was at the time of the case study. The participant talked about the positive feedback loop that was created by running, doing well in school, and feeling an overall benefit from her running practices. She identified that there were multiple positive aspects of these early days of running. Her ability to perform better in her graduate studies, feeling connected to others who she was running with, winning some races that provided a monetary prize, and the physical benefits she was experiencing. These positive aspects fed into her desire to continue to run and race, but at that time she had not ventured into the ultra-distances and had no goal of doing so.

During her graduate studies the participant was running on a regular basis and found herself enjoying the longer runs and started to do local trail races. The races that the participant was drawn to were those that were at the marathon distance (26.2 miles). When describing these races, the participant talked about having a lot of fun, spending time with friends, and winning many of them. She talked about how she routinely got lost and would run further than the intended distance, which eventually led her to her first ultra-distance race.

> I mean it wasn't like I planned to be an ultra-runner. I started doing trail marathons and then I'd get lost and end up doing like you know 28, 29 miles in a marathon. Then one of my friends was like, you know there's this race that's 50k and I'm going to go do it. So my friend and I just went out and ran a 50k then a 50 miler. Then we were like, hey what's the next thing? (Interview #1)

These first two ultra-distance races in 1999 were run in consecutive weekends and both resulted in wins for the participant. Her early on success, the enjoyment she felt from racing at that distance, and the bonds she began to form with others were things that the participant talked about when explaining why she continued to run ultra-distance races. That set the stage for a very successful and long career in ultra-running.

Since her first race at the ultra-distance she has competed in hundreds of races, has won most of the major ultra-distance races around the world, and has set numerous records. She has continued to race at all distances of ultras and has found success at all distances. That continuous level of success was something that she has contributed to her desire to continue to compete at these distances. She was able to go undefeated for the first seven years of her career and stated, "Basically everything I touched has turned to gold until at least 2007". Though she had never been beaten she talked about not really paying attention to that until it was pointed out in a national publication.

> I think 2004 that trail runner wrote something about me never having lost a race. And that is the first time I really paid attention to it. Like I just kind of like I just

kind of raced for racing sake in the most sort of pure sense you can think of. (Interview #3)

She has talked many times about how she has always enjoyed competing and the desire that she had to win things, but she has talked about how racing has never been the focus. She repeatedly talked about how racing and winning were always enjoyable, but they were side products of her desire to just go out and run on a regular basis. That was very evident in the first participant observation. The night before the race she was asked if she was excited to go out and race the next day. She responded with, "I guess, I mean the race thing is alright, but I am just really excited about going out there tomorrow and running 50 miles here. I haven't ever run here and I hear it is beautiful. Plus, it will just be nice getting out there to do 50 miles."

She has been involved in ultra-running for a long time and the journey to be an ultra-runner has been a development over that time. Her journey started as a young child using running as a form of play and escape. She was introduced to the racing culture at young age. Her relationship to running has morphed from a side-product of skiing, to a tool for success through her graduate studies, then as a way of competing and finding success, and then a career as a sponsored athlete. Even though the relationship has changed in some facets, the reason she became an ultra-runner was because of her love of running itself and the way it became a way of life for her.

Finding 2: The aspects of ultra-running that impact the participant's mental health are: 1) The social community it creates, 2) The structure it requires, 3) The experience of physical deprivation, 4) The amount of time spent in nature, 5) The challenge it creates, 6) The physical feeling it creates, and 7) The ability to use it as a platform for gender equity. During the case study multiple aspects of ultra-running emerged as having an impact on the participant's mental health. These six areas were identified as being representative of what she

perceives as the most impactful. Many of these aspects were identified as reasons why the participant started ultra-running and has continued to do so. Some of these aspects are based upon interactions with others, her level of engagement in ultra-running, and the experiences she had while either running ultra-distances, training for ultra-races, or competing in ultra-races.

The social community it creates. The participant has repeatedly talked about how important the social aspect of ultra-running has been for her. She identified that even in high school she found herself forming bonds with others that were either cross country skiers or cross country runners. She even referred to them as being her posse and how that template of who she formed close relationships with has continued throughout her life. These experiences set an example for her of who she wanted to be around and where she might find these types of people. She talked about how that influenced her participation in a store team and how she used racing for the store team as a means of identifying people she could run with. She stated, "I wasn't really expecting to race. I was just racing because it was something to do and I like people and maybe I could find more running partners that way."

She talked about how the social aspect of ultra-running has made her feel like she was accepted and had a place within a group of people. The community that she has built up around her has been a very important piece of what she finds very important to her. She described the friendships and bonds that she had made with others as being close and attributed that to not only her experiences but to the larger community of ultra-runners. She stated, "That community is just very strong and supportive. You know it, for whatever reason runners tend to form these really intimate bonds."

These bonds were very evident in the interactions she had with her running group during participant observation two. One of the days during the observation the researcher and

participant went for a long run with her running group and then ended the run at one of the group members houses for a going away party for another one of the group members. During the observation the group showed a deep level of comfort with each other. Their conversations were intimate and many times focused on telling stories about their shared experiences while running or future plans of running. At one point during the observation the group was saying good-bye to the group member who was moving. While the group members were individually saying good-bye there were a great deal of emotions expressed that included sadness and happiness. The group member who was leaving talked about how he had come to the area as a stranger, had been welcomed into the "family" of runners, how he had felt a deep connection to all of them, and how much he would miss them.

The opportunity to see how connected the group of runners had become was a strong representation of how that level of social connection had become impactful for the participant. In our discussions and interviews the participant talked about how these intimate bonds have been very important to her with those she regularly spends time with. She talked about how she has experienced building strong and intimate bonds with others during ultra-races that she did not know prior to the race and may only see once in a while.

That was witnessed during the first participant observation where the participant was competing in a 50-mile trail race and at the end of the race she embraced another runner that she had not known prior to the race. When asked about the bond that she had formed with the other runner during the race she said:

> So you know we are both in a bit of pain but still loving it. Knowing we saved up to pay for this and she's trained for it and it's not really suffering it's just that we are both very uncomfortable. And that just made us have great conversations. I think it's you know I just think we I think taking away the comforts that allow us to build the walls that we build around ourselves really catalyze intimacy. I just you know there's this sort of trust that you have at that point. You know the

person you know you can't be fake and you know the person you're talking to can't be fake because it's just there's nothing else out there there's no cameras around, you're not trying to play this role in any kind of way. You're just you're just out there experiencing raw human emotion and you're sharing that emotion. (Interview #2)

She talked about how ultra-races set the stage for people to get to know each other. The talked about how the distance and the amount of time that you spend out on the trail gives people the time to get to know one another. She believes that the environment of an ultra-race reduces the pressures of competition and increases the possibility of forming these intimate bonds. She highlighted that when she said:

When you have trail races that are taking three or four hours or more you're not redlining. So you can actually chat with the people with you. And like even the people you're, whether you're trying to beat them or not, at Mile 12 of a trail ultra-marathon you really don't care and you're just going to talk to them because it's beautiful because you're on a trail. Why not get in a conversation? (Interview #2)

The social component that ultra-running offers was something that the participant has identified as an extremely important aspect for her. In the documentary Finding Traction (2016) she talked about how she wanted to bring along others into the journey she took to break the all-time record of running the Long Trail in Vermont. She talked about how that was important for her because it not only helped her but allowed her to reach others and inspire others to live healthier lifestyles. She even talked about how she was using ultra-running to connect with future generations and to inspire young girls to believe in themselves and to challenge themselves. The community that the participant has created for herself through ultra-running has been critical for her at times and will be further explored in the section covering the mental health impacts of ultra-running.

   The structure it requires. To complete an ultra-distance race, a person must train for countless hours, pay attention to their diet, and dedicate a lot of themselves to reaching their

goal. The participant competes in ultras on a regular basis and has built her life around the sport. The dedication and commitment that the participant has shown in her pursuit of being an ultra-runner has consumed most aspects of her life. Structure was something that the participant talks about as being very influential on her mental health and something that she encourages others to consider when thinking about running an ultra.

The participant talked about how training was even more important to her than racing and doing well, because she loves to run. She talked about how training for ultras gives her structure that allows her to go out and just run when she wants to and gets her out the door to run when she does not want to. The days when she does not want to run, does not want to do anything, and feels the weight of depression are the days that the structure becomes the most important. She stated,

> The races give me a goal for which to train on days that I might not want to get out of bed. That disconnect that people can have with depression between knowing that exercise is good for them and having the motivation to exercise. I've solved that problem by wanting to perform well in racing and that's what gets me out of bed and keeps me running at times that I don't want to. (Interview #3)

That structure permeates her entire life. The participant was very aware of what she ate and how she prepared her body for ultras through the use of food. She talked about how she was aware of what she eats on a regular basis, but when she trains for an ultra she uses a Ketosis based diet to help fuel her body while she puts in up to 100 miles a week in preparation for a race. That structure influences what she eats, when she eats, how she shops for food, and the cycles of ketosis that she prepares herself for.

The documentary Finding Traction (2016) captures just how important and impactful food has been for her. She talks about how she has certain things that she prepares before races, certain foods that she prefers during races, and the impact that food can have on her emotionally

due to the amount of energy that she burns during an ultra-run. During the Participant

Observation two the researcher observed how much preparation the participant does in regards to

food, how happy the participant was when cooking, and how she jokes that she only runs ultras

so that she can eat whatever she wants.

> When asked why a person should run an ultra the participant said:
> I think why they should run an ultra is because in order to do those long distances
> you have to do your daily, you have to pay your daily dues. Running that distance,
> having that goal is going to motivate them to do the daily training. If we can find
> some other way to motivate people to exercise enough to make themselves
> healthy then they don't need the alternatives. I needed that. Like I need that goal I
> need that competition. I need that. Like that's part of my meaning in life.
> (Interview #3)

The experience of physical deprivation. Ultra-running pushes a person beyond their

daily comforts into a place of deprivation. Ultras take a long time to complete, use an enormous

amount of energy, and create physical and mental pain at times. That level of deprivation was

something that the participant talked about as being something that she has found to be very

beneficial, enjoyable, and even enlightening. Deprivation has given the participant an

opportunity to explore herself in ways that she may not have been able to in any other way.

She talked about how the experience of deprivation and struggle has given her an

opportunity to come into contact with what she describes as her "true nature". She stated:

> Ultra-running takes all the comfort away so that our artificial walls break down.
> So I see the me who is 70 miles into a race as being more true to my nature
> without everything I've sort of built up as a mirage of me. (What allows you to
> break down those walls?) I think it forces me to. All your pride goes away. I mean
> not saying you still don't want to compete or something but you just don't have
> that. You don't have the energy to keep up appearances. And I think so much of
> what we do as humans is just keeping up appearances. OK. I have to look like, I
> have to look and act like a physical therapist right now. I have to look and act like
> a mother right now or whatever it is. (Interview #1)

The opportunity to come into contact with her "true nature" was something that has

helped her become more aware of when she was being genuine in her day to day life.

During the documentary Finding Traction (2016) she talks about what she gets out of the struggle and deprivation that she experiences during ultras. She talked about the simplicity that was experienced in deprivation when she says, "There is nothing in the world after you get past a certain point of deprivation but survival". She talked about how she was able to find meaning in the pain that she endures and how she sees it as an opportunity to escape. She said, "When you feel that intense and exquisite pain everything else melts away". She goes on to talk about how these opportunities have created a special and sacred time for her when she said, "There is something for me more sacred in the, in that world. In the world when I am under physical duress".

In the documentary she talked about how deprivation and physical duress helps her put her depression into perspective, and vice-a-versa. She stated:

> When things get really, really bad on an expedition or in an ultra-race, I can look back to the pain I was in at the worst of my depression and the pain, I'm in an ultra-race isn't that bad. (Finding Traction, 2016)

In the second participant interview she talked about how going into the states of deprivation has forced her to look at her pain and her emotions. Her experiences with depression and the struggles that she has gone through at times when it was just too painful to get out of bed has helped her to endure the moments of deprivation, helped her conquer her fears, and to push the limits of what may seem to be impossible. She described these times of deprivation as being special and important to her story, to her experiences, and to her life.

The amount of time spent in nature. Ultra-runners spend hours and hours in nature. Ultras are run outdoors, many times on trails that run through forests, valleys, and mountains. The participant talked about how important being outdoors was for her and how she loves to run, but there was something more beneficial to her about running outdoors, where she feels

connected to nature. She identified how much impact being outdoors has on her mood and overall well-being.

The participant said that she has always been happier when she was being active outdoors. She talked about when she was a child and she used the outdoors as a way to escape, to play, and to explore. She has continued to feel that connection to nature as she has developed as an adult and as an ultra-runner. During the first participant observation she even talked about how she was excited to be out running 50 miles in on trails that she has never been on and trails that she has heard are beautiful.

The participant has talked about how much she appreciates nature and the scenery that she has encountered during her ultras. She shows an appreciation for having been able to race all over the world, having seen sights that not many people get to see, and having been able to explore miles and miles of trails and take in all of the wondrous glory that they hold. She even chooses a place to live based on the natural environment that it possessed.

During interview one, she talked about how doing exercise indoors was something that she dreads and prefers to only due when she was forced to by injury. She does go on to say that her aversion to exercising indoors may not only be due to her love of being outdoors, but may be supported by her association of exercising indoors with injury. Even though that may be the case, her attraction to and preference of being in nature was reinforced in almost every conversation she has about the benefits of running. In the first interview she stated:

> I just loved to run and my favorite workout with running were the long distance ones. You know just going out in the woods for four hours and going for a run. And so I think ultra-running just fills that need to be doing something outdoors. (Interview #1)

Her connection to nature has been emphasized with her choice to spend time outdoors during all seasons of the year, in various weather conditions, and as a preferred setting for any

activity. The client not only spends hours and hours outdoors running, but she spends much of the winter months skiing, snowboarding, and snowshoeing as either recreational activities, race activities, or training activities. The participant was involved in biking, paddle boarding, archery, and various other outdoor activities the place her in nature on a consistent basis, which she openly describes as "needed".

The challenge that it creates. The participant describes herself as a competitive person who has always been drawn to things that she finds challenging. In the documentary Finding Traction (2016) she highlighted when she explained the reason why she was attempting to break the overall record of running Vermont's 263-mile-long Long Trail. She explained that by saying:

> I don't know what my limits are, and I guess that's part of why I am doing this.
> Doing something that's not necessarily possible, but that's what extreme sports
> are all about. Doing stuff that people think is impossible at the time. (Finding
> Traction, 2016)

Later in the documentary that aspect continues to be highlighted when one of her crew members yells out to her, "you would be doing this if it wasn't hard". That was said as she fought through physical pain, emotional pain, and various roadblocks to her goal.

The participant talked about how she has been a competitive person since she was young child growing up with an older brother and being involved in various competitions. Her competitive nature has driven her to compete in the most notable ultra's in the world. During the first participant observation the participant even talked about how her competitive nature and her "need to win" where the driving forces her success in ultra-running during her early years in the sport.

The participant talked about how that mentality has changed over the years as she has gotten older and how she was finding more meaning in the personal challenge in ultra-running.

She talked about how she has gotten older she continues to be involved in racing, but was now more drawn to longer runs, expeditions, and challenging herself to complete runs known as FKT's, which stands for fastest known time. These FKT's are run on specified trails and stand as a marker for anyone who wants to challenge the time set as the FKT. That was what the participant undertook during her documentary Finding Traction (2016) and something that she talks about being a future interest as well. These specific types of experience are based on challenge of the individual's physical, mental, and emotional abilities. It was these types of challenges that she found most appealing.

One of the challenging aspects of ultra-running that the participant talks about was the unpredictability of an ultra. She talked about how ultras create an opportunity for a person to see how flexible they are when things don't go the way you plan. That was something that she talked about as being a certainty when someone runs an ultra. She described that in third interview when she said:

> Ultra-running isn't balanced or predictable. It makes you have the ability to
> change plans on the fly. It allows you to have completely unexpected things
> thrown at you and you just roll with it. Which, I think makes ultra more lifelike.
> It's a better analogy for life than say a marathon. (Interview #3)

She went on to talk about how that aspect of ultra-running was one of her favorite things. She talked about how she was naturally a flexible person who doesn't get worked up about much and that she finds that to fit well with ultra-running. She talked about having a guilty pleasure of finding some joy when she sees other runners fall apart when their plans fall apart.

The physical benefits. Running creates a great physical feeling that gives the participant a sort of "high", as she explained in some of our conversations. She talked about how the physical aspect of running for such a long time, through various terrains, and at different difficulties was something that she cherished and something that she felt like she needed. In

participant observation one she talked about how she was very excited to get out to run through a new environment and then while in the race she talked about feeling excited and "pumped." These physical feelings of pushing the body hard for a long period of time was an aspect of ultra-running that the participant finds "addictive."

During one scene in Finding Traction (2016) she and a pacer are talking as they run through a very technical section of the trail and the pacer talked about how one of the things that he loves about trail running was the rush of adrenaline you get when you are running such technical and possibly dangerous trails. The participant agreed that it was something she found exhilarating and something that feeds her addictive personality. The sense of feeling a rush from running was something that she talked about in participant observation two when talking about what she enjoyed about long runs.

Another physical benefit that ultra-running created for the participant was the physical health that it gave her. She openly talks about the physical benefits of being active and running and how these activities help her stay healthy and physically fit. That was a main point that she emphasized in Finding Traction (2016). She talked about how she wanted to raise awareness of the importance of exercise, especially for younger children. The participant talked about how she has chosen ultra-running as her primary avenue of exercise. She emphasized the importance of ultra-running to her physical health in interview number two when talking about what would happen if she didn't ultra-run, she said:

> Is that going to cause me problems or is, am I going to have heart disease.
> Because you know if I don't ultra-run then I don't exercise at all and you know
> it's. I mean it may be one of those things like I kind of have to be a little bit all or
> nothing. I'm motivated to eat well and to run and to do all this because I love to
> run. (Interview #2)

The participant went on to talk about what she would be willing to give up to be able to continue

to run and the reliance that she has on running. The dependence on running will be further

explored later in the chapter.

> ***The ability to use it as a platform for gender equity.*** Gender equity was a topic the

participant talked about being a passion of hers and something that she had personal experience

with. The participant talked about her experiences throughout her life that have guided the

development of her feminist views and identity. The participant identified that ultra-running has

created a platform for her to speak about the inequity in sports. When recalling her early years,

the participant said:

> One of my early early memories is going to a hardware store with my mom and
> my mom wanted an Allen wrench and so she is describing you know this. I think
> they were new to us at that point. And she's describing the six sided wrench and
> the guy who was helping us with it said, I don't need a woman's description of a
> wrench, and I remember at that like I didn't know what to do. It was one of those
> things that you you feel I mean I still remember the feeling of feeling how wrong
> that is and feeling how limited that is yet it wasn't a time when she could really
> talk back. It wasn't something that was done but that moment had a huge impact
> on the rest of my life. You know it was like wait you know when my mom has
> this engineering mind and she's you know she can fix anything and and to be
> treated that way affected me. (Interview #3)

The participant talked about how that experience formed the way that she saw the roles of

males and females and how it affected the view of herself. The participant talked about how she

spent many years wanting to be a male. She stated:

> I grew up wanting to be a guy. You know dressing, doing sports everything I did
> was sort of more of the masculine side and before transgender stuff existed just be
> like well whatever I can do to be a guy I'm going to do that. I passed for a guy
> until puberty as much as I could. (Interview #3)

She described these experiences as setting the base for her future feminist views and

fueling the fire that later in life would lead to her being an outspoken advocate for gender equity

in sports, especially in ultra-running. The participant talked about how she has been able to use

the sport of ultra-running as a platform to bring awareness to the gender equity issues within

sports.

As a successful ultra-runner who was sponsored by large running companies the participant has experienced firsthand the discrepancies that exist within the sport when it comes to the way that males and females are paid, sponsored, and treated. She talked about the differences in prize money, endorsement deals, and media coverage has created a large gap between the financial abilities for males and females. She even talked about how she would beat male racers on a regular basis, but they would receive more money as incentives and rewards because of their gender.

She talked about how things like inequity are things that she enjoys fighting for. She had a deep passion when talking about these topics and it was seen in many of the interviews that she has given outside of the case study. The documentary Finding Traction (2016) was focused on her pushing the boundaries of what was possible to bring awareness to the importance of females taking their place in sports. In the movie she said, "I think women need to take our place in sports and we need to take our place in professional sports and we need it to show that we are worth watching." In the movie she talked about her experiences in ultra-running and how she hoped to inspire young girls to go out and push the limits and to do things that others say they can't do. In our second interview she talked about having the goal embracing all parts of herself and using that to fight for equity.

> I think that this, and again hindsight I might be completely off on this, but it's to
> sort of embrace being female and also having feminine as well as masculine parts
> to myself and and fighting for an equity that goes beyond sex and goes beyond.
> (Interview #3)

The ability that ultra-running has given to her to speak to the inequity in sports and how the participant has endured inequity to have that platform led to some other changes and challenges. She decided to go without sponsors as she moved into the year's major race season.

She sees the opportunity to show that she was very capable of doing things on her own as well as the freedom that it gives her to speak openly about her experiences and her thoughts about the inequity within the sport.

Finding 3: The ways ultra-running has impacted the participant's mental health are: 1) The creation of an identity that revolves around her engagement in ultra-running, 2) The promotion of healthy mental health practices, and 3) Her dependency on ultra-running. There were three main areas that emerged as ways that ultra-running had an impact on the participant's mental health. These areas were representative of how the participant perceives the impacts of ultra-running on her mental health. They included the impacts that ultra-running has on her daily routines and overall life, how it has influenced her identity within and outside of the sport, and how it has become an essential part of her mental health regiment.

The creation of an identity that revolves around her engagement in ultra-running. The participant has been actively engaged in ultra-running since 1999. Her engagement has not only been casual or as a mere hobby, but has been at a level of engagement that has infiltrated all part of the participant's life. The participant has built a social identity, career, and home environment that revolves around ultra-running and other endurance sports.

The participant's living environment was a strong representation of how ultra-running and winter endurance sports have become a focal point in her life. The photos in Appendix D were taken during the participant observation two and show how her house was dominated by the presence of running gear, trophies, skiing gear, running shoes, a massage table, and other things that are related to her passion for these sports. The participants house was a shrine to all things endurance sports related. Though her multiple trophies, plaques, awards, and other race memorabilia were displayed around the house, the way they were displayed showed how the

results of these races had been important but had not been the focus of why she continues to ultra-run.

How pervasive ultra-running was in the participant's life was seen in the way she lives her life on a day to day basis. The participant talked about her running routines and schedules, which at range from 12 miles a week at the lowest and around 100 miles a week at the highest, and how these routines give her structure. She talked about her weekly routines that involve coaching others in their pursuits in ultra-running and how she integrates herself into some of these coaching session.

With that level of commitment to ultra-running the participant had to adjust her career as a physical therapist. She admits that she had to sacrifice having a full time career as a physical therapist to be a professional ultra-runner. The participant talked about how she feels fortunate to have the ability to structure her career as a physical therapist to accommodate her running career and her running routines. Though she has found the flexibility within her career to do that she talked about occasionally feeling stressed when she has to make up time as a physical therapist after taking time away for her running or skiing pursuits.

According to her journal, her choice to pursue running as a career rather than use her education and licensure as a physical therapist to have a comfortable lifestyle has been a point of contention between her parents and herself throughout the years. In her journal she reported:

> Though they support my running career (mom only since I started making money), they disapprove of my putting racing and advocacy (for mental health and gender equity), ahead of making money. They, or at least dad, recognize the unfairness of my making roughly $1/2 million dollars less than I would have through my long career had I been male. But they both fail to see the value in my continuing to race and fight for equity when I could simply use my education and make a comfortable living. They do not approve of my funding a start-up non-profit from which I may well never even break even financially. (Participant Journal)

Her choice to pursue her passion in ultra-running, advocacy, and helping to inspire others

through running was something that creates friction between her parents and herself, but it was

something that she felt strong about and speaks about very passionately.

Not only has her engagement in ultra-running impacted her living environment, but it has

become something that has given her notoriety and fame amongst the running community. The

participant was a very well-known name and face in the world of ultra-running. That was

apparent in the first participant observation where she was announced as being present at the

race, the desire of racers and observers to take a picture of her, and people patiently waiting to

just tell her hi and to talk with her for a moment. That was not an unusual occasion for the

participant as she described in interview two when asked about her notoriety:

> I mean people know who I am generally and certainly if I go to Western states or
> you know big ultra-races either in Asia or the U.S. now. That's where I've been
> spending my time being little Miss ultra-person and then people just know me.
> (Interview # 2)

She talked about the way that her notoriety has definitely been impactful on her through her

career as an elite level ultra-runner.

That level of notoriety and being someone who has such a known identity within the

sport has been both a positive and stressful thing. The participant has appeared on magazine

covers, been in documentaries, and appeared on various other media outlets. There have been

sponsorships by companies known throughout the world, it has allowed her to travel all over the

world to race, and provided her with some monetary funds and plenty of gear. Her status as an

elite ultra-runner and as the best in the world has been a difficult status to fall from. She talked

about how the transition from being the best in the world to not being:

> It's one of those things that when in going from being an elite athlete, you know
> like the best in the world to not the best in the world and not near the best in the
> world now, that's been hard. It's it's been a tough transition in some ways. I have

the world watching me like watching me go through this transition of winning everything, then getting a little slower getting a little slower getting a little slower. You know it's not not a big deal. But. But. But there is this sort of sense of loss. (Interview #2)

Her transition from being the best in the world to not being the best was something that she talked about as having both negative and positive aspects. She talked about how she had gone seven years in the sport without losing a trail race and how that had created a pressure on her to perform. She talked about how she had found a great deal of relief when she finally lost and then even more relief when she decided to go sponsorless for the first time.

Her identity within the sport appears to have changed over time as she has moved from being an unbeaten force in ultra-running, to a constant sponsored elite runner, to someone who was a staunch advocate for mental health and gender equity. The transition outwardly appears very different from where it may have been at one point in time, but the personal identity as an ultra-runner appears to be as strong, if not stronger, now as it has ever been. The internal identity as an ultra-runner has created a life that uses running to promote multiple positive mental health practices.

The promotion of positive mental health practices. Ultra-running has created many positive mental health practices in the participant's life. She identified that ultra-running has helped her to create structure in her life that she has found to be very beneficial. That structure involves a lot of mental health practices that are often prescribed to counseling clients. The structure has included routines, connection to others, safety, exercise, and finding meaning and purpose. She believed that ultra-running has given her an opportunity to self-explore and to develop a deeper understanding of herself. The importance that running had on the participant was summarized in one statement, "When I got sick I was running to live. Even though I don't think I really knew that I was running to live."

The participant has been a competitor for most of her life. That drive to race and compete

has been something that has pushed her to engage in skiing and running. She talked about how

things shifted for her when she had her first bought of depression and how all that mattered was

being able to get outside and run. She stated:

> So I had a huge drive to race. But then everything changed with that first bout of
> depression. Race results stopped mattering as much as just getting out and
> running. I mean. I Think through that first bout I would be out go out for like you
> know go out and try to do a three mile run and I couldn't even do that. I'd walk
> and run and cry and whatever but somehow even though I had given up on racing
> by that point, I didn't even think that I would race again. I still needed to be out.
> Like something drove me and it's this thing that I can't really explain. I just
> needed to be outside and it's probably again that sort of Pavlovian response
> knowing that this activity made me feel better. (Interview #1)

She talked about how running created a positive reinforcement loop that she identified in

grad school as she began to realize that she would perform better, have greater cognitive skills,

and have lower stress when she would go out and run. That positive relationship was something

that helped her build a structure in her life that feed her need for positive mental health practices.

She spoke about how that relationship and the positive feedback loop it created and how

it was something that she has been able to use when she was struggling with the symptoms of her

depression. The routine that she has created for herself that involves her daily life and how these

routines are supported and integrated with others has been something that she identifies as being

beneficial on her mental health. She even talks about how these routines help her move from a

place of struggling with depressive symptoms to a place of having fun. She highlights that by

saying:

> If I'm going through a lot of depression, my running partner has to come drag me
> out of bed and I won't say a word for the first 45 minutes of the run. Then I wake
> up and I'm like, Holy Cow it's actually fun. So no matter what was going on,
> eventually running becomes fun, even if I'm in a horrid mood or whatever.
> (Interview #2)

According to the participant, participating in ultra-running has fostered her connection to others and through ultra-running she has been able to form strong, intimate bonds with others. She said, "For whatever reason, runners tend to form these really intimate bonds." She talked about how important these bonds have been for her and how they have been something that has drawn her to the sport. She talked about how she has always been drawn toward people who are involved in the same sports as her, and that was especially true with those who engage in ultra's.

In interview two she talked about how she felt awkward at times in social situations when the environment was more formal or she was surrounded by people that she didn't feel connected to. She then talked about how that was very different for her when she was around a race or with someone she can talk to about running. That was apparent in both participant observations one and two.

In participant observation one the researcher observed her being very friendly with multiple people that she had just met and even spent time talking to people who she had not previously known, but had just spent time running in the same race that she did. The highlight of that point in observation one was the bond that she formed with another racer who finished just behind her. Before meeting on the trail, she and the other racer had not spoken. Then, after the race the two embraced each other, laughed with one another, and had stories to tell about things that had happened on the trail. When asked about that interaction the participant talked about how they had just spent time together running and getting lost together and that that type of bonding with another racer was something that she encounters regularly.

In interview number two she talked about her feelings of comradery. She said this about why ultras appear to bring competitors together rather than split them apart:

> I've experienced it (empathy and comradery) multiple times when somebody is
> going through a bad patch. You know it is sort of that life in a day concept of a

100-mile race. You're going to you're going to have really high highs and really low low's. It seems like in our sport way more often than not when someone's having a bad patch. Instead of using that as the time to attack. We use that as a time to kind of come together. That just you know it's almost lending your energy and that sort of mystic I guess. But you know lending you're your, the fact that they they, like ok Justin is having a really bad patch but I am feeling good. And I can kind of lend that energy to you. And that's without even a thought of paying back because you just know it all sort of comes around anyway. (Interview #2)

That explanation of how ultra-runners appear to take care of one another was something that she used to explain how ultra-runners differ from many other competitors and why ultra-running has been so beneficial for her.

Even though that type of bonding was seen during ultra-distance racing, it was even more present in the participant's everyday life. The participant talked multiple times about how important the social connectedness aspect of ultra-running was something that she benefits from on a regular basis. The participant talked about how much the support of others has helped her cope with the symptoms of depression, injury, and a feeling of being a part of something larger. These bonds with others are especially high those she trains and runs with on a regular basis.

In participant observation number two the researcher got the opportunity to see these bonds first hand in the participants everyday living environment. During the observation the participants running group came together to run 8 miles together and then to celebrate a group member who was moving away. During the run the group was fully engaged in conversations, sharing stories and memories, laughing with each other, and checking in on how each other were feeling. At the celebration the group members reminisced about times that they had spent running with each other, future plans for races and training runs, and cried with one another as they said farewell to one of their members. The group showed an intimacy with each other that had been fostered by blood, sweat, tears, and hours of time with no distraction and good conversations.

Another aspect of the connectedness with others was seen with those who have paced her during an ultra-run or race. A pacer is someone who will run with the participant during a portion of a longer run or race to help aid her on the run. The participant showed a great amount of appreciation and a special intimate bond with those that have done that for her. She talked about how pacers get to see the runner in a very vulnerable spot and how it breeds intimacy. She said:

> Ultra-runners tend to be these highly motivated generally highly successful in their outside lives kind of people. And they also tend to be very independent. I don't need help I can get everything done myself kind of people and yet we choose to put ourselves in a position where at 70 miles when our pacer comes in or whenever that is where we are in need of them. You know like we're beating ourselves up to the point where we have to say we have to give some control over to them. We have to show our vulnerability because your wrecked by that. To ask someone I know to hold my hair out of my face as I puke is different in the level of intimacy and of showing my weakness. (Interview #2)

The experience of vulnerability was something that she talked about as being a part of what ultra-running provides as a way of self-exploration. She talked about how ultra-running has allowed her to come into contact with her true self and has built a willingness in her to explore her weaknesses and strengths. She even talked about how ultra-running has created an awareness in her of when she was being authentic in her everyday life and when she was building up facades around her.

She talked about how that awareness has helped her understand her own passions and how to use her career as an ultra-runner to advocated for the things that she believes in. The participant identified two areas in her life that she has become more and more aware of as what she wants to fight for and why those things are important. In interview three she talked about it when she said:

> I've always liked to fight. Whether I was fighting for gender equity in our sport or fighting for the decrease of stigma in mental health, fairness is like the overarching theme of morality in my world. (Interview #3)

The final and most prominent positive mental health practice that ultra-running has fostered for the participant was the use of running as a coping skill. The participant has been very vocal in interviews, pod casts, documentaries, presentations, and within the research project about how running has been the primary coping skill for her as she has battled major depression. The participant talked about how running has been a continuous positive feedback loop that makes her feel more mentally healthy on a daily basis.

During interview three the participant talked about an injury that she had sustained and how she had struggled with the recovery period and being forced to not run for an extended period of time. When she was sked about how she was able to improve her mental health during after suffering a major episode of depression the participant talked about having to develop more coping skills, but she talked about how ultra-running provided her an outlet, that wasn't running at first, that she needed.

> So as I started to be able to walk around. I go to the dog park and I can do a mile and I. I just got better. It was just I started I think even like I would get excited for the point that I could walk two miles and have 500 meter jogs in that in that time. And this was also, ended up being like mid-June. So it's starting to get sunny. The days are longer, then we went to Western states where I was actually where I was. You know the star and I was volunteering and I was working at the finish line and I was doing PT voluntarily and that was that's always a big high and it's always super Sunny there which affects my mood a lot. And so there's that. And then after Western I started being able to run half a mile and walk three miles and. And I got to the point I remember at some point midsummer thinking I'm getting as high off a three mile run as I do off a 20 mile run. And so. I just sort of like everything just kind of got better like it was slow but it was. But it was steady. (Interview #3)

She continued to highlight how she has been able to use running as an effective coping skill in her journal when she talked about a trip that she had taken back to her parent's home. When talking about that trip she recalled a day when she had encountered a series of events that built upon one another to the point where she was very frustrated, sad, and in need of running to

cope with the moment. In the journal she talked about the experience:

> The showing off for dad's doctor-friend and car body shop visit have eaten the daylight, and I'm pissed. I cannot even sit at the table with Dad upon our return home as I try to return some emails. Having reverted to my high school form I feel a sad, but disproportionately strong irritation, bordering on anger, building. I'm having a last straw moment. The days of mom laughingly mocking my actions, dad commenting on every piece of food that enters my mouth and now this have built up. I know they mean nothing bad. Being mad at dad is like kicking a puppy. He loves me dearly, and painfully. I cannot tell them of my frustration, but I can no longer hide it. I close my computer and walk calming, if determinedly upstairs where I can cry in peace. (Participant Journal)

She went on to say:

> I fucking need to run. I hear my mom come home from her day working for the town. Fuck! I need to run and I have to walk past them to get my shoes. I've been crying. I know I won't make eye contact; I haven't for hours. I make a break for the downstairs and tell them I'll be home. Sometime. I leave, traversing their solid ice driveway, meeting the sanding guy on my way out. I make it off their land before I'm hobbled by sobs and hyperventilating. I walk. Then I run again. Within a mile I can see. I can breathe and think. I'm moving fast. Better than I have since arriving home. Just before 2 miles, Dad calls to tell me the driveway's been sanded, so my run back should be nicer. I speak calmly. Nothing out of the ordinary. A regular call to inform me of better conditions to come. 5 miles in I feel good. I finish at 7 miles, relaxed and calm. (Participant Journal)

That excerpt shows how the participant copes with stress and even frustrating situation with running. Her use of running as a coping skill has been very effective and very useful for her for many years. She has talked openly about how running saved her life when she was first experiencing depression and that at times it may take her 45 minutes to an hour to feel different, but that eventually running allows her to return to a state of mind and emotional stability where she feels safe. In the movie Finding Traction (2016) she talked about how she wants to introduce running to people who feel like there is no reason to live, for those who are "looking down a barrel" to know that there is something else.

The participant has developed running as a very effective and important coping skill that has served well as a maintenance tool, a skill to address depressive symptoms in the moment,

and as a coping skill for other stressors. Running has become a strong proponent of the participant's identity. That level of reliance on running as her primary coping skill has created a dependence on running.

    Her dependency on ultra-running. Ultra-running has become a key point of the participant's identity and the main coping skill in her life to address her symptoms of major depression, anger, frustration, and many other experiences. The reliance on running and especially ultra-running has created a dependence on the activity. During the exploration of the relationship between ultra-running and the participant's mental health the participant talked about how important ultra-running was to her, what occurs when she was unable to run, and voiced a realization of that dependency.

    During the first participant observation the participant talked about how she was still recovering from an injury and that she was excited to be back running 50 miles during a race. She equated her time not being able to run these distances as "having my wings clipped". That sentiment was voiced throughout the participant observation as she talked about her excitement to be back running at these distances and how much she had missed it.

    The need to run was something that the participant talked about regularly. As mentioned before, the participant uses ultra-running as her main coping skill. That dependency was something that she has become aware of and was highlighted by two instances where the participant suffered injuries that kept her from running for an extended period of time. The first injury happened when the participant had surgery to repair a hernia, and the second happened when she slipped on some ice and tore her hamstring. These two instances resulted in two very different experiences due to the fact that one was anticipated and one was not.

The participant became aware of a hernia that she would have to have surgery on to repair it during the filming of Finding Traction (2016). When discussing that injury and surgery she talked about how she was aware of how difficult the 6-week recovery period would be for. She said:

> I just you know like I prepared really well mentally and physically for the downtime. I went out, hammered my body, and then I could accept that it was six weeks. And I didn't suffer that badly. Part of that too was that I was allowed to walk and so I would be out walking three, four, or five miles a day. I think that kept me sane, the combination of working really hard up until the surgery knowing that I always take two weeks off with exercise. Your, just because you beat yourself up, it is really only four extra weeks. And knowing that I can walk during that time and I weathered that way better than I expected. (Interview #3)

She talked about how she had put into place a support system for herself and knew that she could count on her support to help her during that time. The knowledge that she was going to struggle with that process was something that she was aware of, but had not experienced up to that point in her career. The next injury was not expected and did not go as well.

The participant suffered her second injury after she slipped on some ice getting out of her car. The events that followed the unexpected injury highlight the dependence that the participant has on ultra-running. Once she learned that she had partially torn her hamstring the participant even considered continuing to run through the season.

> The hamstring thing was totally unexpected. And then the repair was totally unexpected, like I was, I until like two days before the repair. I was still thinking, do I run the whole season and get it repaired afterwards or do I have the repair. Even though I was still limping while running and I couldn't really run any faster than a 9:30 pace because of the hamstring, I was still considering trying to get through the season, which is kind of messed up. (Interview #3)

The injury created a situation where the participant had to have an unexpected and extended period of time where she was not allowed to put weight on her leg. She explained how difficult the process was for her, how it affected her mental health, and the realization that she

had become very dependent on ultra-running. She said this about the experience:

> So finally I made the decision to have the surgery. So your four weeks on crutches and two weeks not weight baring. And the two weeks after the first four weeks are on crutches and you're not allowed to do anything. So six weeks I didn't even get to walk. And I was a disaster and I tried to eat well. Well I tried to you know just do anything I could to make, to be as healthy as I could but it still didn't work. Like I, you know by week by the end of the first week I stepped on a scale and I gained two pounds and I'm like oh my god that means I am going to gain 12 pounds by the end of this. So that put that in my head and I don't think I have any eating disorder or I googled disordered eating occasionally but I've really been pretty healthy with that, but I couldn't handle it while not running. And so there was that. And then so I went for a whole week eating rice cakes and butter and that's it. You know and then and then I crashed badly. By the end of the first or second week I was crashing badly enough that I knew I had to get guns out of my house and or just take the bolts out. So like my bolts were all at people's homes right. Then it just kept getting worse and worse and worse and I didn't know why I was crying uncontrollably and the sitting staring at the wall and getting nothing done and barely I mean I barely got through work. But it was hell. I mean it was. There are four or five weeks in there that were absolute just pain and despair and not physical pain. The psychological pain was the worse. And there's no drug you can take to get that better. We did up my psych meds to help though. I mean I hadn't had successive days of suicidal thoughts in at least a couple years. I mean I wasn't I was never at I was never close to crisis. You know since my early 20s with a couple exceptions. But this was just like I was it was always right there and it sucked. (Interview #3)

As she told the story the participant was very intense and at the end released a big sigh as though she had just relieved a portion of the pain.

These two injuries have been the two instances where the participant was forced to take time away from running to attend to her physical needs. These are not the only injuries that she has suffered. She talked about how she had smaller injuries where she has chosen to attend to the injury, but only in a manner where she can continue to run. During the collection of the data the participant was still recovering from an injury that she sustained during a snowshoe race. That injury resulted in a broken bone in her leg, which she continued to treat as she was running ultra-distances.

When asked about the resilience of continuing to run even when she was injured the participant talked about how common it was for ultra-runners to run while injured. She talked about how she doesn't feel as though she has ever put her health at risk or pushed hard enough to cause serious damage to her body, but that she has witnessed that many times. She reflected about how she was aware of the damage that she has done on her body and that she has received feedback that she might consider not running anymore, which was something that she was not prepared to do. She highlights that when she said:

> I have seen the X-ray of my left ankle. There are people who think I'm stupid for running on it, but yet I can't or won't stop. I don't know which. I suppose I could stop if somebody put shackles on me. (Interview #3)

She went on to talk about how she was aware of that and how aware she has become of age and the wear on her body.

> I've been running on a broken essentially broken bone for two years and not knowing it was there. And you know how much of that is just making excuses and how much you know it's a weird thing that I haven't figured out that it's something that's going to be ongoing for the next several years of you know how you govern a body that is 46 years old. I mean there's this sort of this physical psychological and personality wise just all these things mixed together that I haven't figured out. (Interview #3)

> When asked about why she continues to push as hard as she does, she talked about how she feels as though she needs to push hard to fill a need inside. The researcher asked if there was a fear of inadequacy and she responded with:

> I think that that (fear of inadequacy) is a huge part of all of this for me. I always find myself pushing the envelope to prove something, even when I know I shouldn't. I find myself still pushing an envelope that I don't have the strength quite to back up what I'm doing necessarily. I put this value judgment on it and now here I am with a series of injuries and that makes me sort of look at myself and then wondering you know how much of my injuries are due to making a poor choice. That was based on ego. My ego needed to race Snowshoe nationals because I knew I could do well and I got injured. (Interview #3)

The participant talked about having the realization that she will not be able to continue to run ultra-distances all of her life and that she has become more aware of that and that she needed to build other things into her life to act as coping skills. The activities that she chose to fill these needs that arose during her hamstring injury included archery, painting, and jewelry making. She reported that these are activities that she still enjoyed and engaged in regularly. She talked about that when she stated:

> I've always thought I could cope super well but you just, my best coping skills have been taken from me during those injuries. I knew I needed to put something in it but I also. Just I know that there's going to be more and more times as they get older that I can't run as much as I want to run. So before I even got off crutches I bought a bow. I'd never done archery before. I started doing archery and I just, I'd be at the range every day. You know even if I, not when I was non weight bearing. But as soon as I could get off the crutches and I was allowed to weight bare, then I was just at the range constantly. At least constantly at least four or five days a week. And and I also taught myself how to make like metal jewelry. So I just like well I can make these really cool things. And I also repainted and rewindowed and resided most of my house. So you know so I was able to find other things to throw in that space. And I'm kind of surprised. That that was enough. I think I've had a fear of stopping running because, how do I live without running? But yet this summer when I was running 12 miles a week and I think of that as not running, you know. I was outside every day painting and outside every you know doing stuff. (Interview #3)

In interview three the researcher asked if she felt as though running was still as big of a dependency now as it has been. She replied, "You know it's still my drug. It always is." That statement and the stories that she shared about her experiences with her need to run and to run long distances are great examples of how ultra-running continues to be a dependency for the participant.

Summary

This chapter discussed the characteristics of the participant, a description of the participant observation settings, and a presentation of the findings. The chapter used a rich description process to inform the reader of important data gathered through the data collection

process. A detailed description of the participant was given to inform the reader of important aspects of the participant that were pertinent to the case study. The chapter described in detail the settings of both participant observations to allow the reader to gain insight into the environment in which the data from these observations was collected. A rich description process was used to present the findings to show the collected data that supported each finding. There were three findings presented in this chapter: 1) The participant's journey to being an ultra-runner developed over time, 2) The aspects of ultra-running that impact the participant's mental health, and 3) The ways ultra-running has impacted the participant's mental health. The next chapter will discuss the analysis, synthesis, and interpretation of these findings.

ANALYSIS, INTERPRETATION, AND SYNTHESIS

The purpose of this instrumental case study was to explore the relationship between ultra-running and mental health through the lived experiences of a single participant. The following questions guided the process of the research study: 1) How did the individual decide to participate in ultra-running? 2)What aspects of ultra-running impact the participant's mental health? 3) How has engaging in ultra-running impacted the participant's mental health? The chapter presents the essential themes and the interpretation and synthesis of three analytic categories; 1) The participant's decision to participate in ultra-running, 2) What aspects of ultra-running have an impact on the mental health of the participant, and 3) How the participant's mental health has been impacted by her participation in ultra-running. A summary of the chapter is provided at the end of the chapter.

Presentation of Essential Themes

The data was collected through the use of three interviews, two participant observations, journaling, and media data. The collected data was analyzed through the use of thematic analysis. Thematic analysis uses six stages to identify the essential themes of the data, 1) Familiarization, 2) Generating Initial Codes, 3) Theme Search, 4) Reviewing Themes, 5) Naming and Defining, and 6) Producing the Results (Braun & Clarke, 2012). The analysis of the data identified four essential themes. The themes that emerged were, 1) Development of Participation, 2) Promotion of Positive Mental Health Practices, 3) Development of Self-Identity, and 4) Dependency.

In Figures 4.1, 4.2, 4.3 and 4.4 a graphical organization show a representation of the coding process. These figures are organized to show the reduction process of familiarization, generating initial codes, and naming and defining the themes. The figures show the essential

themes in the middle of the figure. The secondary level of the figure represents sub-themes that encompassed the initial codes, which are represented by the tertiary level of codes. These essential codes will be further explored as they are related to the three analytic categories explored later in the chapter.
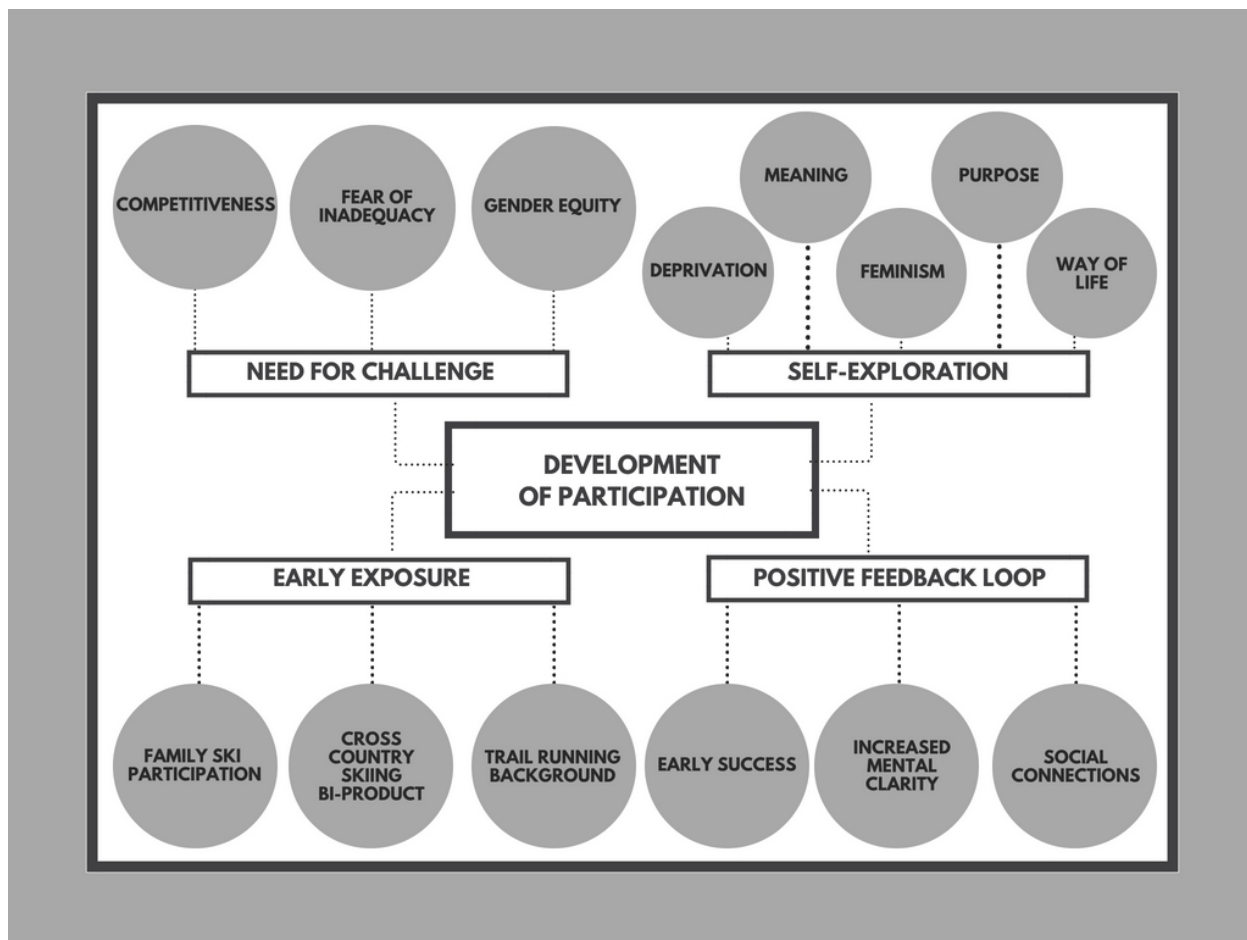

Figure 4.1: Essential Theme 1. The figure shows the reduction process of the data to identify the essential theme of, Development of Participation. The primary level represents the essential theme, the secondary level represents the sub-themes, and the tertiary level represents the initial codes.

Figure 4.2: Essential Theme 2. The figure shows the reduction process of the data to identify the essential theme of, Promotes Positve Mental Health Practices. The primary level represents the essential theme, the secondary level represents the sub-themes, and the tertiary level represents the initial codes.

Figure 4.3: Essential Theme 3. The figure shows the reduction process of the data to identify the essential theme of, Development of Sel-Identity. The primary level represents the essential theme, the secondary level represents the sub-themes, and the tertiary level represents the initial codes.
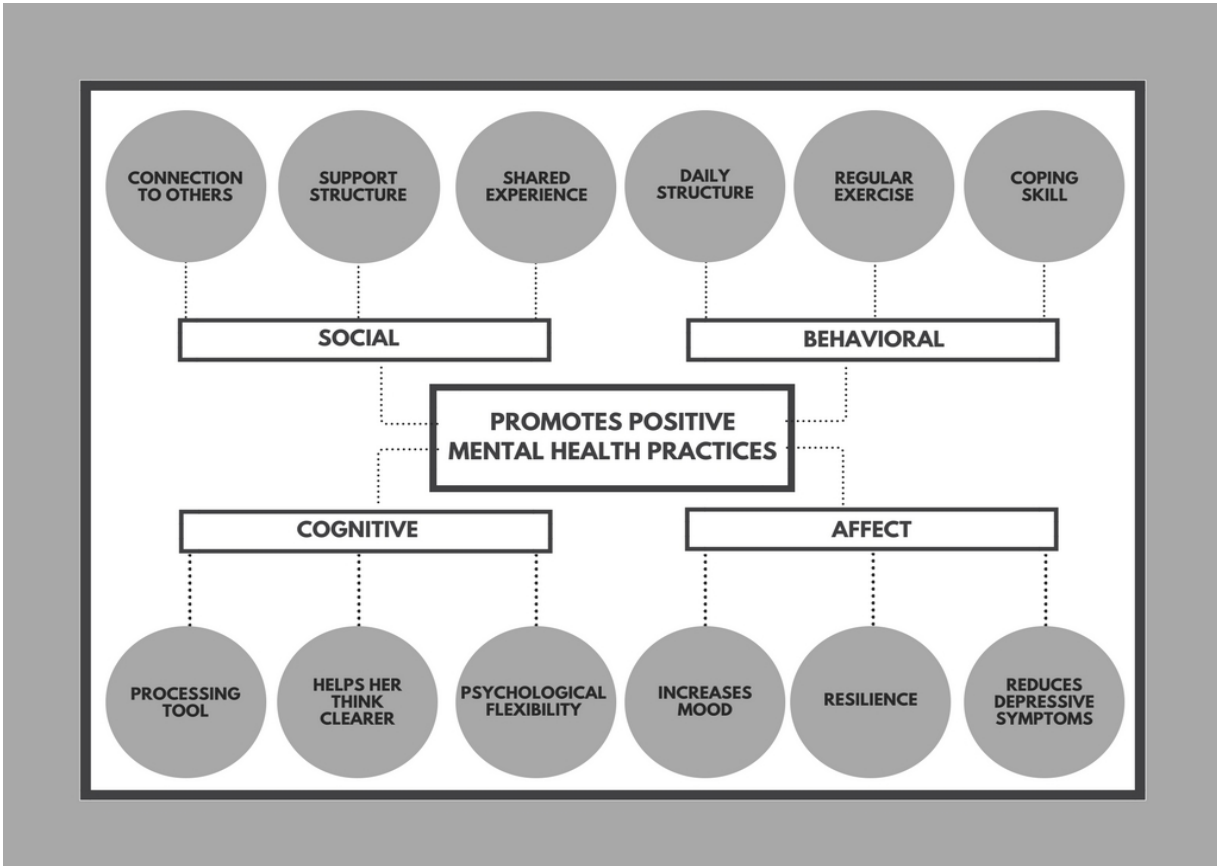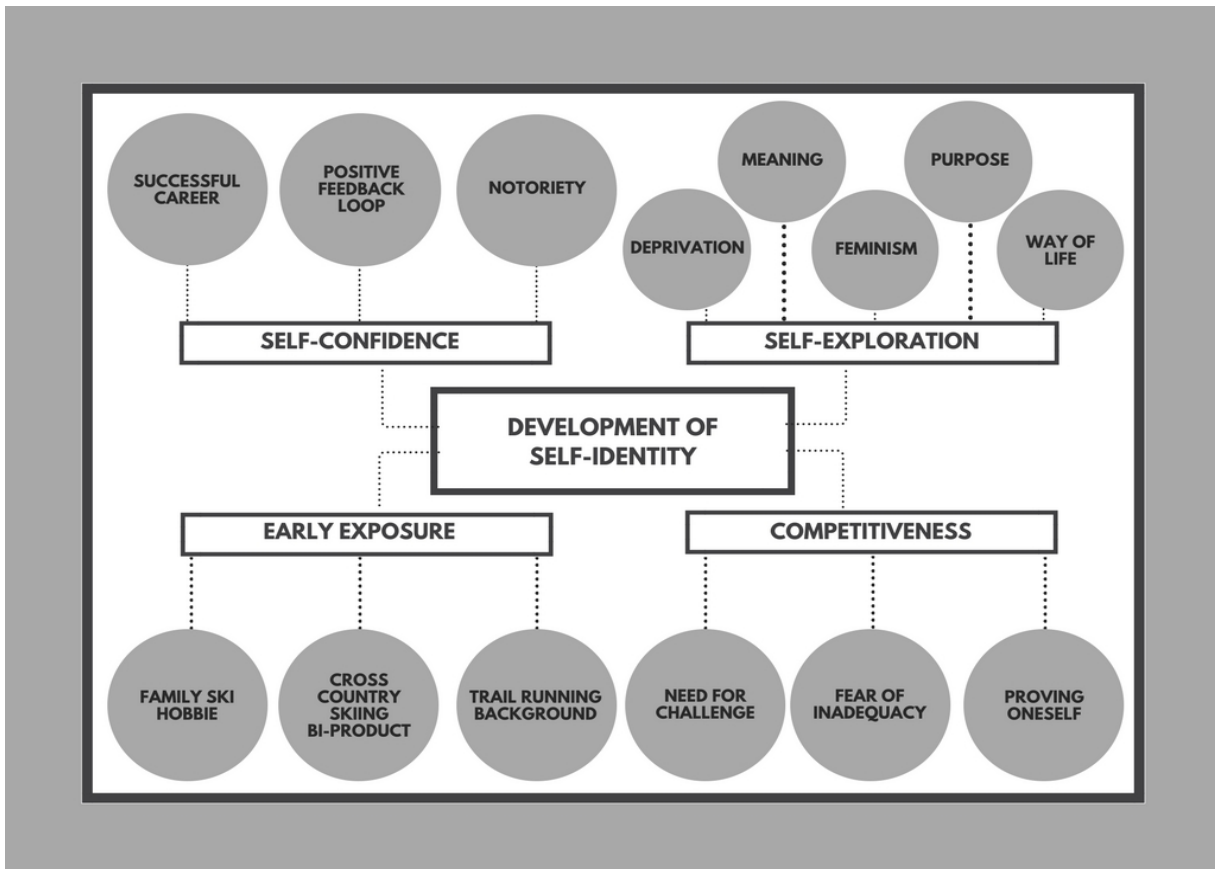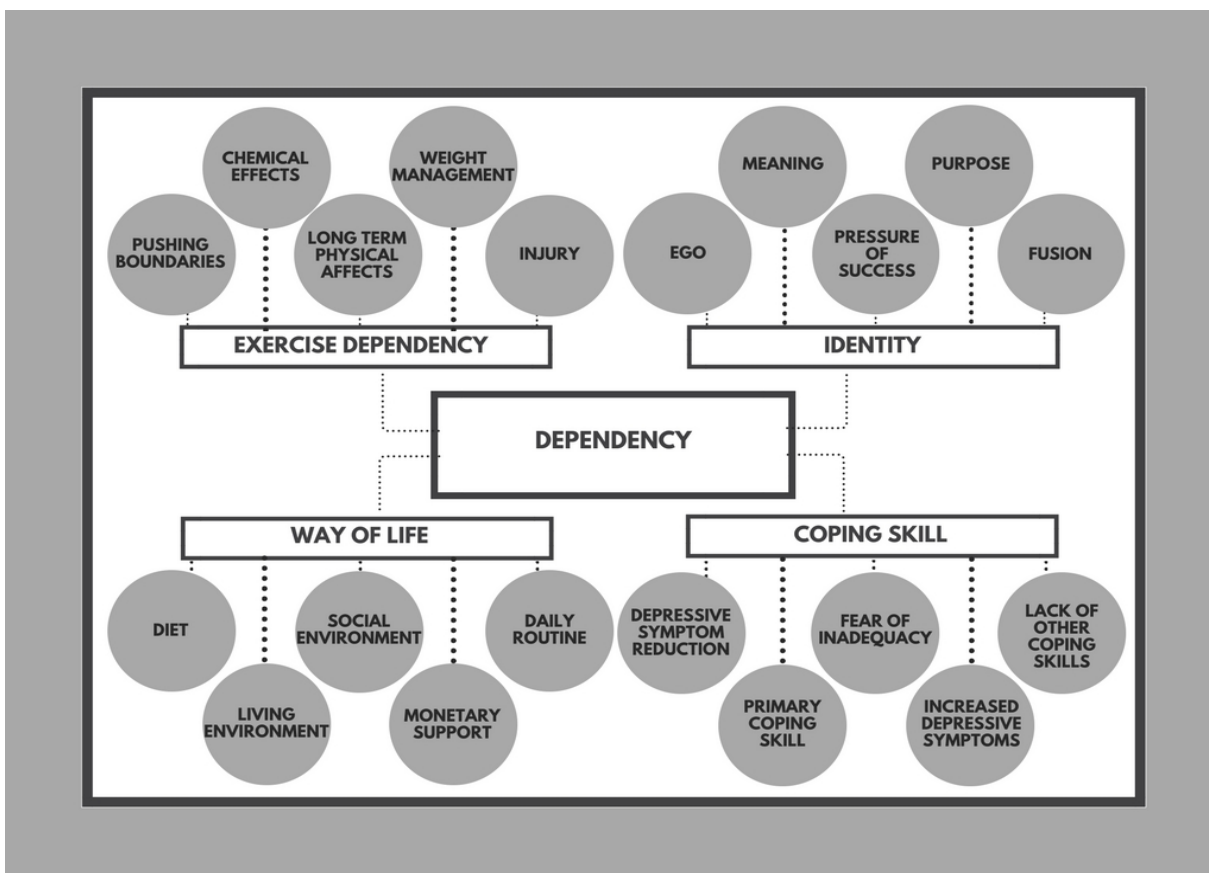
Figure 4.4: Essential Theme 4. The figure shows the reduction process of the data to identify the essential theme of, Dependency. The primary level represents the essential theme, the secondary level represents the sub-themes, and the tertiary level represents the initial codes.

Analytic Category 1: The participant's decision to participate in ultra-running.

The participant's choice to participate in ultra-running was developed over time and as a result of multiple factors. In figure 4.1 the essential theme of development of participation is presented as a final theme that developed from an early exposure to an environment that facilitated the development, a need to be challenged, experiences that created a positive feedback loop, and eventually an outlet for self-exploration and a way of life.

The participant talked about being in a family that not only supported but fostered a competitive spirit in the participant. With the early exposure the participant developed a positive association with racing, competing, and proving oneself. Her early spirit of wanting to be the

best and having the fortitude to work relentlessly toward that goal was highlighted by the participant's father in the documentary Finding Traction (2016) when he said, "She was a tough one, tremendous determination. We saw this when she was growing up. She would just uh. She was not going to be beaten. (laughter) And that is (the participants name)".

The determination her father speaks about was seen in her pursuit of being an Olympic athlete. After her dreams of competing in the Olympics did not happen her determination was seen again in her early success in trail running. The participant had been trail running for fun, play, and as a cross training activity for ski racing for many years. Her familiarity and positive association to trail running led her to return to running after she was no longer striving for the Olympics. As she returned to trail running she found success, positive feedback for her mental, emotional, and social well-being, and a renewed outlet for her need for challenge. These experiences appear to be where her journey to become an ultra-runner was formed.

According to Maslow (1943) the need to feel as though we belong and feel accepted by others is an essential part of the human experience. The participant found out early in life that she felt comfortable, accepted, and that she belonged within groups of athletes. She talked about how she had always been drawn to these sorts of groups of people when she said:

> You know I think certainly in high school you try to be accepted and your kind of trying too hard. And I did find in high school and college that that you know that the ski team or the running team would be my, they were my friends. I mean that was my posse. So even then it was happening. It definitely the ski team would party together. The ski team would eat breakfast together. We're you know we were a little click. (Interview #2)

These experiences set in motion who and where the participant sought out a group where she felt like she belonged and was accepted. It showed how the participant created an identity that fit into these types of systems.

After the participant moved to Pennsylvania for graduate school she needed to find a way to be connected to others. From her experiences earlier in life she knew that she would find that within the running community. She sought out ways to connect with others through running. The desire to connect to other runners led her to going to trail races, meeting new people to run with, being a part of a local store team, and eventually being a part of the ultra-running community.

The social connection aspect of ultra-running was important part of the development of running as positive coping skill. The participant had experienced her first major bout of major depression, moved to a new area, and was starting graduate school. According to William & Galliher (2006), when a person is able to strengthen their feelings of social connectedness then they increase their support systems and increase their mental health. The ability for the participant to use running as an avenue to for social connectedness began a positive association that would be strengthened by other experiences with ultra-running.

The development of her participation in ultra-running began at an early age, was fostered by her connection to others through trail running, and solidified as she explored ultra-running and the many positive outcomes she felt. The participant talked about how she ran her first two ultra-races within a week of each other. These races happened after one of her running partners encouraged her to run a 50k race, she won, and she wanted to see what was next. The participant went on to be undefeated in ultra-trail races for the next seven years. Her early success helped to solidify her passion and desire for ultra-running. The participant talked frequently about how her early success fueled her competitiveness and fueled her desire to continue to race. During the first participant observation she said, "You know at first I was winning everything, and I needed to win".

Ultra-running has become a large part of the participant's identity and a way of life for her. During the second participant observation the researcher was able to view the living environment of the participant and how it revolves around her participation in ultra-running and other endurance sports. Appendix D shows photos taken of the participants living environment. In these photos you can see many trophies, plaques, and memorabilia from the vast amount of ultra-races the participant has been done. These artifacts stand as very strong examples of how her participation in ultra-running has continued to grow over the past 19 years. During the observation, she talked about her plans for future races and how her desire to run ultra's continued to grow. One of the main reasons that she expresses the "need" to run was for the mental health benefits that she encountered.

Analytic Category 2: Perception of what aspects of ultra-running have an impact on the mental health of the participant.

Regular exercise and running have been shown to have a positive effect on a person's mental health (Bekkala, 2016; Bodin & Hartig, 2003; Cattanach, 2016; Warburton et al., 2006). In analytic category two the aspects of ultra-running that the participant perceives as having an impact on her mental health were explored. The following items emerged from the inquiry as having an impact on the participant's mental health: 1) The social community it creates, 2) The structure it requires, 3) The experience of physical deprivation, 4) The amount of time spent in nature, 5) The challenge it creates, 6) The physical feeling it creates, and 7) The ability to use it as a platform for gender equity.

In the analysis of the data it became apparent that the social community that the participant has encountered and has created for herself had an impact on her mental health. The participant attributes much of her success, mental health stability, and positive association to

ultra-running with her connectedness with others in the sport. This was congruent with the findings of Jaeschke et al., 2016; Johnson et al., 2015; Krouse et al., 2011; Simpson et al., 2014, who identified in their research that comradery was something perceived to be a benefit to those who engage in ultra-running. The research focused on the comradery felt in race scenarios and within the ultra-running community at large. The case study found that the participant does feel a connection to others through race scenarios and in the community at large, but has also created a very intimate connection to those in her local running community.

The participant was very well known in the ultra-running community at large and was regularly recognized at any race that she attends. The participant talked about how her notoriety has been beneficial and has created a sense of comfort for her in many situations. She talked about how she naturally feels comfortable when she meets other runners.

> I don't necessarily connect quickly with people in situations that aren't comfortable. I have a really hard time in that sort of cocktail party situation going up to someone and speaking comfortably to them. Where as in running I have no problem with it and some of that may be OK, everybody knows you are running you know you're here you are the star. People want to talk to you. But even in running situations where I am at a local race that's not my local race you know it's you know I'm on vacation and there's a 5k somewhere and I go and do it and nobody knows who the hell I am. I am still really really comfortable with that you know the post-race you know drinking Gator Aid and shooting the shit like that's really comfortable. (Interview #2)

Her comfort has allowed her to feel connected to others and has created an impact on her mental health.

Another aspect of ultra-running that had an impact on the participant's mental health was the structure ultra-running demands. According to the participant, to be able to complete an ultra-distance run or race a person has to commit to a structured training regimen where the runner has to "pay their daily dues". The participant has structured many parts of her life to optimize her potential to run ultra-distances in the most effective way possible. The participant talked about

how that structure had a great impact on her mental health and was one of the main reasons she believed a person should consider ultra-running. The structure provided regular exercise, which research will suggest has both physical (Krouse, Ransdell, Lucas, and Pritchard, 2011) and mental health benefits (Bodin & Hartig, 2003; Warburton et al., 2006) to it.

The way the participant structured her day increased the impacts on her mental health. Her structure not only encompassed the physical aspects of running, but included her daily routines, increased motivation to complete tasks, structured her diet, and increased time spent outdoors. The participant talked about how each of these areas had created a support in her life that she found beneficial and helped her feel more stable. As mentioned above her structure involved the participant being outdoors for multiple hours at a time and multiple times a week.

Contact with nature has been linked to healthier mental states and having a positive effect on mood (Bratman et al., 2012; Marselle, Irvine, & Warber, 2013). The participant spends a great deal of time outdoors and in contact with nature. When the participant runs ultra-distances and trains for ultra's she spends hours and even days in constant contact with nature. She talked about how her contact with nature has been something that she looks forward to, greatly appreciates, and even needs. When she talked about the first major bout of depression that she experienced, she talked about how she felt as though she needed to be outside, she stated:

> I still needed to be out. Like something drove me and it's this thing that I can't really explain. I just needed to be outside and it's probably again that sort of Pavlovian response knowing that this activity makes me feel better. (Interview #1)

The association that the participant talked about between having a greater state of mental health and nature was consistent with the research that relates contact with nature with lower levels of anxiety, lowering of depressive symptoms, and an overall greater state of mental health (Berman et al., 2012; Bratman et al., 2012; White, Alcock, Wheeler, & Depledge, 2013). In the

participants experiences she talked about how she knew she would feel better if she just got

outside and engaged in some sort of physical activity. Her practices of running outside as a part

of her ultra-running practices put her into contact with nature on a regular basis and strengthened

the association of feeling better with being in nature.

The participant did talk about her experiences with running in an indoor environment and

had a mixed reaction to how she perceives the impacts of running indoors. When talking about

how she feels about running indoors she said:

> I always associate indoor exercise with injury. You know I break my legs a lot in
> running. You know and I you know I ski hard, I mountain bike, I dirt bike, I've
> broken bones so I had times where I had to be. Where I physically cannot run
> right then. Where I have had to be, I'm indoors exercising so I associate indoor
> exercise with, with taking my drug away. You know like, it's like this is my fun
> space and I broke my leg so I can't go out and do that. So my happiness level is
> then usually lower. (Interview #1)

She went on to talk about when she feels down and has feelings of depression it can take

up to 45 minutes of running outside to get her feeling better. She then talked about how she

wasn't sure if it would matter if she was indoors or outdoors for those 45 minutes. She said:

> Because those 45 minutes when I am down. Um, will. I am not not paying
> attention. I don't think it matters that I'm outside. I think the only reason I'm doing
> it is either because I'm forcing myself or if I am seriously down. Is because you
> know my friend comes in. And you know like we're meeting at your house at 8.
> You know I cannot meet them because we're meeting at my house so I kind of
> have to go. And so. You know, would those 45 minutes. Of just not really
> enjoying it, would they have been the same on the treadmill as they are outdoors.
> So I don't know. (Interview #1)

The statement shows the indecisiveness in the participant of whether she felt as though being in

nature has an important role in how she was able to use running to elevate her mental health

status. It once again highlights how impactful the social connections are for the participant.

Though the participant did state in interview one that she was uncertain of whether being

in nature was important during those moments of feeling depressed, she had many other

moments where she stated the importance of being outdoors. In the documentary Finding Traction (2016) she talked about how important being outdoors was and even called it "a sacred place where she I am in duress and in beautiful places". The importance of being outdoors was highlighted throughout the data of the research project. While recovering from an injury she noted that it was important for her to get back outdoors, even if it was just to walk her dog or paint the outside of her house. The inability to be outdoors when she suffered her hamstring injury and was experiencing a major bought of depression was something that may have exacerbated her depressive symptoms.

Ultra-running provided an outlet for the participant's desire for challenge in both the physical and emotional aspects. People engage in ultra-running as a way to challenge themselves and to push the limits of what they are capable of physically and psychologically to increase their sense of accomplishment and self-esteem (Bull, 1989; Krouse et al., 2011). That sentiment was very apparent in the participant's experiences with ultra-running as well. She talked about how she has always been competitive and has always sought out activities to challenge her and to push her limits. In the documentary Finding Traction (2016) she stated:

> I've explored these parts of myself and my soul, but I don't know what the limits are and I guess that's part of why I'm doing this. To do something that's not necessarily possible, but that's what extreme sports are about. Doing stuff that people think is impossible at the time. (Finding Traction, 2016)

The need for challenge may be a way for the participant to attend to her feelings of inadequacy and to prove to herself that she was good enough. She talked about how she finds herself pushing the limits of her abilities on a regular basis, whether it was with ultra-running, skiing, or other activities. She even talked about how she has made decisions to compete at times and in ways that she knew was a risk, but may have been serving her ego needs.

One of the aspects of ultra-running that the participant talked about having a great amount of impact on her was the physical experience of deprivation. The level of physical exertion and challenge that ultra-running demands many times sends a participant into deprivation. The participant explained her experiences of deprivation as sacred, enjoyable, and beneficial. In one interview she said:

> What ultra-running does it takes it takes all the comfort and it takes enough of the comfort away that our artificial walls break down. And so I see the me who is 70 miles into a race as being more true to my nature without everything I've sort of built up as a mirage of me. (Interview #2)

She talked about how these encounters with her true self has allowed her to explore her strengths and weaknesses, and how it allows her to explore these outside of running as well.

As mentioned above, the participant talked about being a fighter and someone who appreciates challenge. One challenge that she was very passionate about was fighting for gender equity and fighting to make women more appreciated in sports. The theme appeared frequently in the participant observations, interviews, media data, and journals. The participant described her ability to compete in ultra-running races as a great opportunity and hindrance to speaking up for gender equity. She talked about how she has been able to place herself in a position where she can talk about the inequity first hand and people will listen. She talked about how she has suffered from that inequity for a long time as well.

Ultra-running provided the participant an avenue to talk about the gender inequity in many sports, but she has not been free to speak about that openly. In Interview three she said:

> I finally made the decision to just not look for sponsors. I just don't want to I don't want to sell myself for now. And it was such a relief to have that. But at the same point I had to have that decision made. But at the same point if I were running still, if I were still capable physically of running really elite times then I wouldn't have made that decision. I kind of see hard rock this year has potentially my last or maybe Gobi Desert, really hard rock as being like sort of my last statement in the sport in some ways as a professional athlete or as an as an elite athlete. And if

> I can go to hard rock and win it. And I hope to podium. I can make a much bigger statement for how women are treated in the sport by our sponsors than I could if I just accepted a travel and product only sponsorship. (Interview #3)

The statement revealed that the participant's awareness that her time as an elite athlete was coming to an end, but that she can use her time to step away from sponsors and to truly make a statement about her passion for gender equity.

The participant talked about her growing awareness that she was no longer able to run at the same pace she once did and that she was coming close to the end of her elite level racing career. She talked about how her transition has created an interest in different challenges. She took her desire for challenge, wanting to continually push the boundaries, and wanting to make a statement for gender equity and created an opportunity to address all of these with her documentary Finding Traction (2016). In the documentary she talked about how she was challenging the fastest known time on the Long Trail in Vermont for multiple reasons. She talked about wanting to push her own boundaries, how she wanted to raise awareness that women athletes are important and should be watched, and she wanted to inspire young girls to do things that others say are impossible and to be active. The documentary was a strong example of the morphing of the participant from being an elite athlete in race scenarios to being a champion for her passions.

Analytic Category 3: How the participant's mental health has been impacted by her participation in ultra-running.

Gestalt therapy has the goals of, "1) Movement toward increased awareness of self, 2) A gradual ownership of their experience as opposed to making others responsible for their experience, 3) A development of skills and values that will allow them to satisfy their needs without violating the rights of others, 4) Becoming more aware of all of their senses, 5) Learning

how to accept responsibility for what they do, which includes consequences, and 6) Having the ability to ask for and get help from others and have the ability to help others" (Corey, 2013, p. 201-202).

In the exploration of the participant's experiences with ultra-running the researcher found that many of the participant's experiences with ultra-running are similar to the goals that Gestalt therapy. The participant talked about how she has experienced a great deal of self-exploration and awareness of self while ultra-running, how she has to take responsibility for herself, her choices, and her injuries at times, how ultra-running has become her primary coping skill to battle against depression, how she was very aware of how her body works on all levels, and has learned how to ask for help both with her running and with her mental health.

The participant talked about how ultra-running has put her in a position where she has been able to explore all the aspects of herself without the confines of facades and wall that she has built up to protect herself. Her experiences with deprivation and spending hours and even days without distraction has fostered a great awareness of her strengths and weaknesses. The participant said:

> (Talking about what ultra-running has done for self-exploration), I think what it's done, is that it alerts me to the fact that I'm not always genuine. I think it's more that. Just because we don't think we're artificial we don't think we're. I mean I think we believe the projection that we're putting out there. So maybe. Maybe I'm more comfortable exploring my weaknesses. Or what I perceive as weaknesses you know and I think maybe that. I'm not sure. But it definitely is sort of there's an exploration component there. (Interview #2)

In the data collection the researcher found many references to how the participant uses ultra-running to explore herself. She talked about how ultra-running allowed her to think clearer and may have fostered how she explored herself in a more genuine way than in other times.

The use of ultra-running as a tool for self-exploration was consistent with the finding of Johnson et al. (2016) and Simpson et al. (2014), which found that ultra-runners use their times running as a way to foster self-exploration, self-awareness, and even a spiritual journey. The amount of time that the participant spends running in nature, with others, and in challenging situations creates an ample amount of time where she can become more aware of how she feels about situations, how she interacts with others, and how she overcomes adversity.

Ultra-running is an activity where the participant is forced to make multiple choices that could have serious consequences both physically and mentally. The participant talked about watching some racers who are rigid in their thinking and in their racing and how they suffer when things go wrong. For the participant, her ability to be flexible and accept things as they are during races and in life has created success for her in both venues. She talked about how she has been a person who has been able to let things be what they are and was able to work within that for most of her life. She talked about how ultra-running has continued to develop her psychological flexibility and strengthens her ability to take responsibility for her own decisions and experiences.

One way that she has taken responsibility for her own actions and experiences was with her recent injury. The participant decided to compete at a snowshoe race that she had not properly prepared for. She talked about making the decision to satisfy her ego, because she knew she could do well in the race. The decision to compete led to her having a broken bone in her leg that she had to deal with and continued to rehabilitate. When the participant talked about that experience she did not place the blame on anything or anyone else but herself. She openly talked about her ownership of her decisions and how she had learned from the experience.

Based on the participant's report, it appears that engaging in ultra-running has fostered psychological flexibility within the participant, it has also developed into the participants primary coping skill. Running was something that the participant had a positive association with since her childhood. She talked about running being a form of freedom, play, and adventure for her. She talked about how it had played a side role for many years as she pursued her desire to compete in the Olympics in biathlon racing. It wasn't until graduate school that running became a coping skill that she began to rely upon.

Running lowers stress levels, lowers symptoms of anxiety and depression, and has been related to an overall better mental health in those that engage in running regularly (Bekkala, 2016; Bodin & Hartig, 2003; Cattanach, 2016; Warburton et al., 2006). Ultra-running has many of the same properties as lower levels of running and has even been described as therapeutic by some ultra-runners (Karnazes, 2017). The participant's experiences showed how she used ultra-running to manage her own mental health needs.

In graduate school the participant noticed that when she would spend time outdoors running for an extended period of time she had an increase in her cognitive abilities. She noticed that she was in a better mood, felt less depressed, and had a greater overall mental health. The association between feeling better and running continued to grow and strengthen as the participant became more and more involved with running. Later she was introduced to ultra-running as a sport and the association deepened.

The participant talked about how she can't imagine not running and even refers to ultra-running as her "drug". The participant has a diagnosis of major depression and takes medication prescribed through psychiatrist to help manage her depression chemically. She talked about how she became very aware that she needed two things to properly manage her depression; 1) Her

anti-depression medication, and 2) Running. These recognitions speak to the importance that

running had for the participant.

Her use of running as her primary coping skill for not only depression, but for most

stressful situations was very apparent during the data collection process. She talked about how

she used running when she was angry, sad, bored, and depressed. She described a situation

where she had become angry with her parents and felt as though she needed to go run to alleviate

her anger, which worked for her. She also talked about how running in itself was not the only

part of ultra-running that acts as a coping skill for her.

The participant learned how to ask and receive help with her depression and in running.

She struggled at first with acknowledging she had depression and asking for help.

> In my earlier years especially my first years with trying to navigate the world with
> the experiences of somebody who gets you know intermittent bouts of depression.
> It's certainly through my 20s I didn't want anybody to know, you know I can take
> care of everything myself so I never asked for help. I never wanted help unless I
> needed it and I was in crisis. When I could just sort of get along and hide it I
> would. (Interview #2)

When talking about the desire to take care of things herself and when that changed for

her, the participant realized that it correlated with the same time line that she moved from

running ultra's self-supported to using a pacer (a run supporter).

> So maybe that is I don't know that's part of that sort of transition for me being able
> to ask for help. But now I just you know now I just make sure that a couple of my
> close friend's kind of know what's going on (talking about her depressive
> symptoms). And I'm very comfortable with them helping me now but I certainly
> wouldn't have been before my early to mid-30s. There's no way and I don't know
> if that relates to you know, it does correlate with my use of pacers. (Interview #2)

She talked about how she has become very willing to let those around her support her in both her

depression and in her running. She even talked about how ultra-running has provided her with

the support structure that she needed in her everyday life and in the moments where she was

feeling depressed.

As mentioned before, a greater sense of social connectedness has been associated with lower levels of depression (William & Galliher, 2006). The participant has been able to create a local, national, and international network on people where she feels connected to others and accepted into a community. Her connectedness to others through ultra-running has served as a great support structure for the participant in moments when she was struggling with depression, injury, or both. It forced her to get out of her house at times, and act as a safety net for her when her depressive symptoms are unmanageable.

The local group of runners have acted in her day to day life in the same way that she uses them as pacers in ultra-races. She talked about how she has created intimate bonds with them and how they watch for signs and signals that she wasn't doing well in both her races and in regular life. She talked about how they push her to be better, keep going, and know when she needs a greater amount of help in both arenas.

Ultra-running has been the primary outlet for the participant's mental health needs. This has forged an intimate and strong bond between the participant and the sport that has been fruitful for most aspects of the participant's life. Ultra-running has provided a social support structure, an avenue for exercise, a self-exploration opportunity, a means of satisfying her need to address any fears of inadequacy, and a platform to speak out for gender equity. As the participant refers to ultra-running, it has been her "drug". As with many drugs, a person who uses it as a primary coping skill becomes dependent on the "drug" or in this case, dependent on ultra-running.

Though ultra-running has been primarily a very positive thing in the participant's life, there exists a dependency that she has become more aware of. The participant talked about

gaining a greater awareness of her dependency when she suffered an unexpected injury and was forced to not run for an extended period of time. The injury kept the participant inside, not running, and not able to use her primary coping skill to battle against her symptoms of depression. She talked about how difficult it was and how she suffered a great deal of psychological pain.

Hausenblas and Downs (2002) tell us that exercise dependency may lead to experiences that include withdrawal like symptoms, tolerance to the exercise, and symptoms of anxiety and depression. The amount of time the participant spends running, the effort that she puts into making sure she can run long distances, and her willingness to put her ultra-running routines above other life aspects show the dependency she has for ultra-running. When she was forced to not run for a six-week period following her hamstring injury, her dependency became evident to the participant. Her reactions to the unforeseen injury and the suffering that ensued are consistent with findings of Hamer and Karageorghis (2007). They found that when a runner is forced to withdraw from running due to injury or other issues, runners who are showing signs of dependency can show physical and psychological disturbances (Hamer & Karageorghis, 2007).

The psychological pain that the participant experienced was what she described as being the worse part of the experience. She talked about being able to deal with the physical pain, but that she really experienced an onslaught of depressive symptoms very quickly. The participant talked about how she even experienced thoughts of suicide and had to rely upon her support structure to help her stay safe. She stated:

> By the end of the first or second week I was crashing badly enough that I knew I had to get guns out of my house and or just take the bolts out. So like my bolts were all at people's homes right at my friend's house.
> I mean I hadn't had. successive days of suicidal thoughts in at least a couple years and it had some of that but not much. I mean I wasn't I was never at I was never close to crisis. You know since my early 20s with a couple

exceptions. But this was just like it was always right there. And it sucked.
(Interview #3)

She talked about how her local running community was very supportive and those that she trains with regularly have had a large impact on her mental health. She describes her running partners as very important to her and her mental health as they are the ones who check in on her,

These experiences highlighted how dependent that she had become on running for the participant. She talked about how she decided that she needed to find other things to fill in as coping skills and how she had become aware that she would need to implement more coping skills as she got older and may not be able to run as much as she has been able to do.

During her recovery period following the hamstring injury the participant was able to find other activities that challenged her and allowed her to be active. Her experiences during her hamstring injury was something that the participant talked about being a bad memory and something she wished she had not experienced, but that in the future she could see it as a time period that had a positive impact on her, due to the fact that she had become more aware of her dependency.

As the participant talked about her current awareness of her dependency and talked about her growing awareness of her age and the future. She talked about how she was aware that she was going to need more things to fill in as coping skills as she continues to age and continues to deal with physical issues that have been created by her years of ultra-running. She talked about her awareness of how her ankle was at point of concern and that some people have already given her the advice that she shouldn't be running long distances with her ankle the way that it is. As another sign of her dependency on running she replied to these suggestions by saying:

I can't I can't or won't stop. I don't know which, I suppose I could stop if somebody put shackles on me. But so I don't know. I mean you know how much am I willing to give up. Or how much am I willing to push through the pain that

might be deleterious to my health for trying to perform. And how much am I willing to give up that for just being able to just run. Like how much do I need to run. And you know and I don't know the answers to those things.

Ultra-running has positively impacted the participant's mental health, but has created a dependency that the participant was aware of and was unsure how to fully address at that time. Her participation in ultra-running has given the participant the opportunity to explore multiple aspects of herself, develop a strong support system, feel connected to people through the world, strengthen her ability to be flexible, and served as an affective coping skill. The effectiveness and impact that ultra-running had on the participant is the reason that the participant had become dependent on it. She had such a positive experience with ultra-running that it truly did become her "drug" and will likely continue to be so until she no longer participates in ultra-running.

Interpretations

The researcher used a thematic analysis of the data to produce an in-depth view of how the participant perceives the relationship between ultra-running and her mental health. In the previous chapter three findings were presented; 1) The participant's journey to being an ultra-runner developed over time, 2) The aspects of ultra-running that impact the participant's mental health, and 3) The ways ultra-running has impacted the participant's mental health. This chapter presented three analytic categories related to these findings; 1) The participant's decision to participate in ultra-running, 2) Perception of what aspects of ultra-running have an impact on the mental health of the participant, and 3) How the participant's mental health has been impacted by her participation in ultra-running. Table 4.1 presents each finding and the interpretation associated to the finding in a summarized manner.

Table 4.1 Findings and Interpretations

Findings	Interpretations
The participant's journey to being an ultra-runner developed over time.	The participant never intended to be an ultra-runner. Her participation in ultra-running was a product of the positive impacts she encountered as she engaged in ultra-running.
The aspects of ultra-running that impact the participant's mental health are the social community it creates, the structure it requires, the experience of physical deprivation, the amount of time spent in nature, the challenge it creates, the physical feeling it creates, and the ability to use it as a platform for gender equity.	Ultra-running has multiple aspects that the participant found impactful to her mental health. Ultra-running appears to have aspects to it that fulfill many of the participant's mental health needs.
The ways ultra-running has impacted the participant's mental health were the creation of an identity that revolves around her engagement in ultra-running, the promotion of healthy mental health practices, and her dependency on ultra-running.	The participant has developed an identity that revolves around ultra-running. This is partially due to how engaged she has been in the sport over the past 19 years. This engagement has provided her a structure of positive mental health practices but has also created a dependency on ultra-running that may lead to future mental health issues.

Summary

This chapter covered the presentation of essential themes and the analysis and synthesis

of three analytic categories; 1) The participant's decision to participate in ultra-running, 2)

Perception of what aspects of ultra-running have an impact on the mental health of the

participant, and 3) How the participant's mental health has been impacted by her participation in

ultra-running. These analytic categories showed how each of the findings presented in the

previous chapter were derived from the data collected through a presentation of the coding

process. Each analytic category was tied into the current research and showed consistency with these research findings. A presentation of the findings and interpretations was given in table 4.1 to summarize the interpretations of what the analysis and synthesis of each finding was. The researcher used the analysis and synthesis of the data to arrive at the interpretations presented in table 4.1. The next chapter will introduce the conclusions and recommendations of this case study.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this instrumental case study was to explore the relationship between ultra-running and mental health through the lived experiences of a single participant. The following questions guided the process of the research study: 1) How did the individual decide to participate in ultra-running? 2) What aspects of ultra-running impact the participant's mental health? 3) How has engaging in ultra-running impacted the participant's mental health? This chapter includes the significance of the study, the conclusions drawn from the case study, and presents recommendations for possible utilization of the case study as well as for future research. The conclusions are organized in relation to the findings of the case study. The recommendations are organized into recommendations for ultra-runners, recommendations for mental health practitioners, and recommendations for future research.

Significance of study

Previous research has examined the benefits of engaging in ultra-running by examining the benefits of the actual activity of ultra-running and not a broader view of how it impacts the participant's mental health in all aspects of their lives. This case was able to gain a deep insight into the relationship between ultra-running and the participant's mental health that went beyond the moments when she is running. The case study found that ultra-running appears to have had an impact on the participant's daily routine, mental health approaches, and even her identity. The case study found that the participant perceives ultra-running as having an impact on multiple aspects of her mental health while she is engaged in ultra-running as well as in her daily life. The case study also showed the potential that ultra-running has to create a dependency when used as a primary or solitary coping skill for mental health needs. Finally, the case study has identified future research possibilities and areas of interest for the use of ultra-running in a therapeutic

manner as well as the cautions that need to be understood when using ultra-running in a therapeutic manner.

Conclusions

  The participant's journey to being an ultra-runner developed over time. The first major finding of the case study was that the participant's decision to participate in ultra-running developed over time. Her decision to participate in ultra-running was developed through a process of events. These events began when with the early introduction of the participant to racing, exercise, and competition. From a young age the participant associated running with play, freedom, and enjoyment. This began a positive association that was strengthened by multiple experiences where she found physical, psychological, cognitive, and social benefits from engaging in running.

  A conclusion to be drawn from this finding is that the participant did not choose to begin ultra-running in response to her mental health needs. Though the participant chose to engage in ultra-running after her first noted episode of major depression, the participant does not associate her choice to engage in ultra-running with her experiences with depression. The participant previously had a positive association to running and identified the benefits that she found for her mental health and this established an outlet for the participant to address her mental health needs. Once the participant began to engage in ultra-running the previous benefits felt from running were experienced as well as many other perceived benefits identified by the participant. This supported her decision to engage in ultra-running and encouraged further engagement.

  Another conclusion that can be drawn from this finding is that the individual found enough benefit from running and eventually ultra-running that she continued to develop this skill. The participant did not choose to engage in ultra-running to address her mental health

needs, but chose to continue ultra-running and further her engagement in ultra-running in response to the experiences she had that she perceived as beneficial. It is unclear though whether the participant would have sought out ultra-running and continued to engage in ultra-running if she had not had an early positive relationship to running and found her early engagement with ultra-running beneficial.

The aspects of ultra-running that impact the participant's mental health are: 1) The social community it creates, 2) The structure it requires, 3) The experience of physical deprivation, 4) The amount of time spent in nature, 5) The challenge it creates, 6) The physical feeling it creates, and 7) The ability to use it as a platform for gender equity. The second major finding in this case study was that there are multiple aspects of ultra-running that had an impact on the participant's mental health. A conclusion that can be drawn from this finding is that ultra-running has the potential to impact an individual's mental health in multiple ways. The case study revealed that ultra-running may provide an individual with the opportunity to push their physical and psychological boundaries, create social connections, be outdoors, and even as a platform for social justice issues.

Ultra-running creates a unique opportunity for an individual to engage in an activity that requires a great amount of commitment, training, and strategy to complete something that pushes the individual to a place of physical and deprivation. The participant identified that there are multiple aspects of ultra-running that have had an impact on her mental health. Ultra-running can have an impact on an individual's mental health not only while the individual is actively engaging in an ultra-run, but can impact their mental health outside of the activity. It does this by providing structure, social connections, and lasting physical benefits that can impact the individual's overall mental health.

Another conclusion that can be drawn from this finding is that the aspects identified as having an impact on the participant's mental health were also aspects that the participant perceived as beneficial to her mental health. This positive association reinforces why the participant continues to engage in ultra-running, and it also may explain why the participant has developed a dependency on ultra-running. Ultra-running has the potential to benefit a participant in multiple facets of their lives and in their mental health. The impact that ultra-running had in multiple areas of the participant's life and mental health was so effective that the participant described it as her "drug". The potential that ultra-running has to impact an individual to this degree could be deleterious to an individual.

The ways ultra-running has impacted the participant's mental health are: 1) The creation of an identity that revolves around her engagement in ultra-running, 2) The promotion of healthy mental health practices, and 3) Her dependency on ultra-running. The third major finding of this case study identified three ways that ultra-running has impacted the participant's mental health. One conclusion that can be drawn from this finding is the potential that ultra-running has to impact a participant's mental health can be great. In the experiences of the participant, ultra-running had an impact on how the participant identifies and defines herself, how she structures her life, and how she addresses her mental health needs.

Ultra-running requires an individual to structure multiple aspects of their lives to be able to meet the demands that ultra-running has on the body and mind. Ultra-runners spend countless hours running, structure their diets, and can spend a large amount of money for the sport. In this case study the participant has engaged in ultra-running at a level where she has formed an identity that is grounded in her engagement of ultra-running, structures many aspects of her life for ultra-running, and has developed a dependency on ultra-running. The potential for ultra-

running to have either a positive or negative impact on multiple aspects of an individual's mental health can make it a powerful activity to engage in.

Another conclusion that can be drawn is the potential that a person engaging in ultra-running may have to create a dependency on ultra-running. When ultra-running becomes the primary coping skill of a participant, a key part of the participant's identity, and a primary source of meaning and purpose it can create a dependency that may be deleterious or even dangerous for the participant if they are forced to remove ultra-running from their life for a period of time due to injury or other circumstances. With some individuals, like the subject of this case study, this dependency may not be identified easily or at all until the person is faced with the consequences of not being able to engage in ultra-running.

The final conclusion that can be made from the findings of this case study is the potential that ultra-running has to impact an individual's mental health. Ultra-running was found to have many aspects that may be seen as beneficial to a participant's mental health including; the structure it requires, the social connections it fosters, the opportunity for self-exploration, and the physical benefits it gives. The participant appeared to find moments of catharsis and a release of emotional pain through her engagement in ultra-running. The participant talked about having a very positive association to these moments and finding them beneficial to her mental health and ability to cope with her depression.

The participant also talked about the importance of running being "fun". This view of running leads the researcher to conclude that running and ultra-running is a form of play for the participant. The participant has engaged in running throughout her life in a playful manner and has approached her time running as a source of fun in her life. This includes having a social aspect where she is having fun with others and is engaged in play with others through the form of

running and ultra-running.

The effectiveness that ultra-running had on the mental health of the subject of this case study shows the potential that ultra-running has to address many of the same goals that gestalt therapy identifies. The participant discussed how she finds ultra-running to be an opportunity to become more aware of self, aware of her body and all of her senses, and has learned that she has to ask for help at times in all parts of her life. She has also found that it has helped her strengthen her ability to be flexible when things do not go as expected. She has also found that she must take responsibility for herself. The participant's experiences highlight the potential for some mental health providers or individuals to use ultra-running in a therapeutic manner.

Recommendations

The purpose of this case study was to explore the relationship between ultra-running and mental health in a single participants lived experiences. The recommendations set forth by the researcher are based upon the findings, analysis, and conclusions of the case study. The recommendations are for; 1) Ultra-runners, 2) Mental health practitioners, and 3) Future research.

Recommendations for ultra-runners. Those who engage in ultra-running should consider the role of ultra-running in their lives. Participant's should identify for what reasons ultra-running is used, if ultra-running has become a source of dependency, and what potential issues or dangers may be present if the participant is forced to withdraw from ultra-running for a period of time.

Recommendations for mental health practitioners. Mental health practitioners considering ultra-running for an alternative approach to mental health should consider the

following;

1) Ultra-running is not an activity that someone should engage in without the appropriate level of training or experience.

2) This case study explored the experiences of a single individual and is not meant to serve as a generalizable research study.

3) The findings of this case study showed the possible benefits that aspects of ultra-running may have on a person's mental health. The case study found that spending time in nature was something that the participant found beneficial to her mental health. Practitioners may find this finding beneficial and may consider encouraging their client's to spend more time in contact with nature in some capacity to help alleviate the symptoms of depression. The case study also found that feeling connected to others through activities and experiences was something that the participant has found beneficial to her mental health. If a practitioner has a client who is struggling with depressive symptoms and is already engaged in some activity such as running, biking, or other exercise activities they may consider encouraging their clients to use those interests to connect with others or to engage in those activities with others. This may create a greater feeling of connectedness and may provide some reduction in depressive symptoms.

4) Practitioners who have a client that is struggling with low self-esteem or motivation may find it beneficial to encourage their clients to engage in activities that are physically and/or psychologically challenging, may place them in a place of deprivation, or give them a long term goal to accomplish where they can set daily goals may provide them an opportunity to feel accomplished and increase their self-esteem.

5) The case study found that the participant has struggled through her transition within the sport of ultra-running. This transition is similar to how other clients may struggle with a

transition with their careers, athletic activities, and other interests. The case study highlighted how important the sport of ultra-running has become for the participant and how it has become part of her identity. Practitioners may find it beneficial to explore how their clients may also be struggling with how their identities in their athletic or recreational identities may be affecting them and how they may be able to identify new goals, accept the change in their abilities, or identify other activities that they may be able to incorporate into their lives.

6) The participant identifies running as a form of play and a source of fun in her life. Practitioners who have clients that struggle to find enjoyment in their lives, struggle with stress or depression, or who are interested in incorporating new hobbies or interests may find it beneficial to discuss with their clients what forms of play they identify with, what they did for play as children, or activities that they may find fun or playful.

7) Though this case study identified multiple aspects of ultra-running that were identified as having a beneficial impact on the individual's mental health, these aspects may not have the same positive impact on other individuals that have mental health diagnosis such as eating disorders or obsessive compulsive disorder.

8) If practitioners are aware of clients that are involved with endurance sports, engage in a significant amount of exercise, or who have identities that revolve around a sport or exercise they may want to assess the client for exercise dependency. Practitioners may want to explore the client's coping skills outside of the activity, how the client copes with injury, and what other activities the client is engaged.

Recommendations for future research. The case study focused on the experiences of a single individual. The researcher recommends further studies be conducted using a larger sample of participants to gain a more comprehensive understanding of how ultra-running may have an

impact on a person's mental health and what aspects of ultra-running have the greatest impact.
For future studies the following should be considered:

1. A larger sample of ultra-running participants should be used in a similar qualitative study to identify to what extent the findings of this case study may be present in other participant's experiences. Researchers may want to consider using group interviews, surveys, or broader participant observations.

2. Future studies should look at the different aspects of ultra-running identified in this study to better understand which aspects appear to be the most impactful to a larger number of ultra-runners. This may help identify why people are attracted to ultra-running and if a larger number of people use ultra-running to attend to their mental health needs in similar ways.

3. A larger quantitative study may be able to identify how prevalent the different aspects identified within this study may be in the larger community of ultra-runners and how important these aspects may be to participants. This would allow researchers to identify the impacts each of these aspects and how they might be more utilized with counseling clients.

4. A comparative analysis of ultra-running in contrast to other forms of mental health interventions could be conducted to analyze the effectiveness of ultra-running as a therapeutic intervention. This inquiry may lead to a greater understanding of how ultra-running is impactful as a mental health intervention, what similarities it may have to other forms of interventions such as Eye Movement Desensitization and Reprocessing, Trauma informed Cognitive Based Therapy, or Mindfulness.

5. Future research may find it beneficial to explore the similarities of ultra-running and

self-harm. A qualitative study examining the pain tolerance, emotional pain release through the physical pain release, and the use of ultra-running as a coping skill to transform psychological pain into a tangible physical pain that can be expressed through ultra-running. This may prove to be a beneficial study that may provide insight into the use of ultra-running, why it may create a dependency, and how it may be used by participants to escape from mental health issues instead of addressing them.

Summary

This chapter presented the researchers conclusions and recommendations from the exploration of the relationship between mental health and ultra-running. The chapter covered conclusions drawn from the findings of the case study and the researcher's recommendations for ultra-runners, mental health practitioners, and future research. The conclusions presented in this chapter were derived from the analysis and interpretation of the findings of this case study. Recommendations set forth by the researcher were based upon the findings, analysis, and conclusions of the case study.

REFERENCES

Bailey, J. (2008). First steps in qualitative data analysis: transcribing. *Family Practice, 25*(2), 127-131. doi:10.1093/fampra/cmn003.

Barton, J., & Petty, J. (2010). What is the best dose of nature and green exercise for improving mental health? A multi-study analysis. *Environmental science & technology*, *44*(10), 3947-3955.

Bekkala, A. (2016, October 03). 10 Amazing Benefits of Running You Might Not Have Known. Retrieved December 06, 2016, from http://running.competitor.com/2016/10/new-runner/10-amazing-benefits-running-might-not-known_156473

Berger, R., & McLeod, J. (2006). Incorporating nature into therapy: A framework for practice. *Journal of Systemic Therapies, 25,* 80-94. doi: 10.1521 /jsyt.2006.25.2.80

Berman, M. G., Jonides, J., & Kaplan, S. (2008). The cognitive benefits of interacting with nature. *Psychological science*, *19*(12), 1207-1212.

Berman, M. G., Kross, E., Krpan, K. M., Askren, M. K., Burson, A., Deldin, P. J., ... & Jonides, J. (2012). Interacting with nature improves cognition and affect for individuals with depression. *Journal of affective disorders*, *140*(3), 300-305.

Bloomberg, L. D., & Volpe, M. (2008). *Completing your qualitative dissertation: a road map from beginning to end*. Los Angeles, CA: SAGE.

Bodin, M., & Hartig, T. (2003, April). Does the outdoor environment matter for psychological restoration gained through running? *Psychology of Sport and Exercise, 4*(2), 141-153. doi: 10.1016/s1469-0292(01)00038-3

Braun, V. & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds), *APA handbook of research methods in psychology, Vol. 2: Research designs: Quantitative, qualitative, neuropsychological, and biological* (pp. 57-71). Washington, DC: American Psychological Association.

Bratman, G. N., Hamilton, J. P., & Daily, G. C. (2012). The impacts of nature experience on human cognitive function and mental health. *Annals of the New York Academy of Sciences,1249*(1), 118-136. doi:10.1111/j.1749-6632.2011.06400.x

Bull, S. J. (1989). The Role of the Sport Psychology Consultant: A Case Study of Ultra-Distance Running. *The Sport Psychologist, 3*(3), 254-264. doi: 10.1123/tsp.3.3.254

Bradley, C. (2017, June 26). [Cat Bradley and Magda Boulet cuddling after Western States]. Retrieved August 17, 2017, from https://www.instagram.com/p/BV0UpW7j5OQ/?hl=en&taken-by=catberad

Cattanach, J. (2016). 6 Benefits of Running. Retrieved December 06, 2016, from http://www.active.com/running/Articles/6-Benefits-of-Running

Corey, G. (2013). *Theory and practice of counseling and psychotherapy*. Boston, MA: Cengage Learning.

Crotty, M. (2003). *The foundations of social research: Meaning and perspective in the research process*. London: Sage Publications.

Csikszentmihalyi, M. (1990). *Flow: the psychology of optimal experience*. New York, NY: Harper Perennial.

Defeat The Stigma. (n.d.). Home Page. Retrieved July 07, 2017, from http://defeatthestigmaproject.org/

Glasser, W. (1976). Positive addiction. New York: Harper & Row.

Hamer, M., & Karageorghis, C. I. (2007). Psychobiological Mechanisms of Exercise Dependence. *Sports Medicine,37*(6), 477-484. doi:10.2165/00007256-200737060-00002

Hancock, D. R., & Algozzine, R. (2006). *Doing case study research: a practical guide for beginning researchers*. New York, NY: Teachers College Press.

Hayman, B., Wilkes, L., & Jackson, D. (2012). Journaling: Identification of challenges and reflection on strategies. *Nurse researcher*, *19*(3), 27-31.

Hausenblas, H. A., & Downs, D. S. (2002). Exercise dependence: a systematic review. *Psychology of Sport and Exercise,3*(2), 89-123. doi:10.1016/s1469-0292(00)00015-7

Hoffman, M. D., & Krishnan, E. (2014). Health and Exercise-Related Medical Issues among 1,212 Ultramarathon Runners: Baseline Findings from the Ultrarunners Longitudinal TRAcking (ULTRA) Study. *PLoS ONE, 9*(1). doi:10.1371/journal.pone.0083867

Holstein, J. A., & Gubrium, J. F. (1995). *The active interview*. Retrieved October 27, 2016, from https://weblearn.ox.ac.uk/access/content/group/c9b21030-bf2d-48cd-8075-87fec9ae7345/Documents/Pro-Seminar Series/4.f2.16_The active interview in perspective.pdf

Jacob, S. A., & Furgerson, S. P. (2012). Writing interview protocols and conducting interviews: Tips for students new to the field of qualitative research. *The Qualitative Report*, *17*(42), 1-10.

Jaeschke, A. C., Sachs, M. L., & Dieffenbach, K. D. (2016). Ultramarathon Runners' Perceptions of Mental Toughness: A Qualitative Inquiry. *The Sport Psychologist,30*(3), 242-255. doi:10.1123/tsp.2014-0153

Johnson, U., Kenttä, G., Ivarsson, A., Alvmyren, I., & Karlsson, M. (2016). An ultra-runner's experience of physical and emotional challenges during a 10-week continental run. *International Journal of Sport and Exercise Psychology*, *14*(1), 72-84.

Jonassen, D. (1991). Objectivism versus Constructivism: Do We Need a New Philosophical Paradigm? *Educational Technology Research and Development, 39*(3), 5-14. Retrieved from http://www.jstor.org/stable/30219973

Karnazes, D. (2017). *Ultramarathon man: Confessions of an all-night runner.* New York, NY: J. P. Tarcher/Penguin.

Kee, Y. H., & Wang, C. J. (2008). Relationships between mindfulness, flow dispositions and mental skills adoption: A cluster analytic approach. *Psychology of Sport and Exercise, 9*(4), 393-411.

Kohut, H. (1984). *How does analysis cure?* New York: International Universities Press.

Krefting, L. (1991). Rigor in Qualitative Research: The Assessment of Trustworthiness. *American Journal of Occupational Therapy,45*(3), 214-222. doi:10.5014/ajot.45.3.214

Krouse, R. Z., Ransdell, L. B., Lucas, S. M., & Pritchard, M. E. (2011, October 1). Motivation, Goal Orientation, Coaching, and Training Habits of Women Ultrarunners. *Journal of Strength and Conditioning Research,* 2835-2842. doi:10.1519/jsc.0b013e318207e964

Lee, D., Pate, R. R., Lavie, C. J., Sui, X., Church, T. S., & Blair, S. N. (2014). Leisure-Time Running Reduces All-Cause and Cardiovascular Mortality Risk. *Journal of the American College of Cardiology, 64*(5), 472-481. doi:10.1016/j.jacc.2014.04.058

Lee, R.M, Draper, M., & Lee, S. (2001). Social connectedness, dysfunctional interpersonal behaviors, and psychological distress: Testing a mediator model. *Journal of Counseling Psychology, 48*, 310–318.

Lee, R. M, Keough, K.A., & Sexton, J. D. (2002). Social connectedness, social appraisal, and perceived stress in college women and men. *Journal of Counseling and Development, 80*, 355–361.

Lee, R. M., & Robbins, S.B (1995). Measuring belongingness: The Social Connectedness and the Social Assurance scales. *Journal of Counseling Psychology, 42*, 232–241.

Lee, R.M., & Robbins, S.B. (1998). The relationship between social connectedness and anxiety, self–esteem, and social identity. *Journal of Counseling Psychology, 45*, 338–345.

Lee, R. M., & Robbins, S.B (2000). Understanding social connectedness in college women and men. *Journal of Counseling and Development, 78*, 484–491.

Marselle, M. R., Irvine, K. N., & Warber, S. L. (2013). Walking for well-being: are group walks in certain types of natural environments better for well-being than group walks in urban environments?. *International journal of environmental research and public health*, *10*(11), 5603-5628.

Marshall, C., & Rossman, G. B. (1999). *Designing Qualitative Research*. 3rd ed., Thousand Oaks, CA: Sage Publications.

Maslow, A. H. (1943). A Theory of Human Motivation. *Psychological Review*, 50(4), 370-96.

Martinez, C. T., & Scott, C. (2016). Trail and Ultrarunning: The Impact of Distance, Nature, and Personality on Flow and Well-Being. *Psi Chi Journal of Psychological Research, 21*(1), 6-15. doi:10.24839/2164-8204.jn21.1.6

Maxwell, J. A. (2012). *A realist approach for qualitative research*. Thousand Oaks: SAGE Publications.

Mead, G. E., Morley, W., Campbell, P., Greig, C. A., Mcmurdo, M., & Lawlor, D. A. (2010). Exercise for depression. *Cochrane Database of Systematic Reviews Reviews*. doi:10.1002/14651858.cd004366.pub4

NAMI. (n.d.). Retrieved August 23, 2017, from https://www.nami.org/Learn-More/Mental-Health-By-the-Numbers

Paluska, S. A., & Schwenk, T. L. (2000). Physical Activity and Mental Health. *Sports Medicine, 29*(3), 167-180. doi :10.2165 /00007256-200029030-00003

Passmore, H. (2011). Feeling blue— get green: The benefits of nature on our mental health and well-being. *Earth Common Journal, 1,* 80-86.

Ravitch, S. M., & Carl, N. M. (2016). *Qualitative research: Bridging the conceptual, theoretical, and methodological*. Thousand Oaks, CA: Sage Publications.

Reiner, M., Niermann, C., Jekauc, D., & Woll, A. (2013). Long-term health benefits of physical activity–a systematic review of longitudinal studies. *BMC public health*, *13*(1), 813.

Roethlisberger, F.J. and Dickson, W.J. (1939), Management and the Worker, Harvard University Press, Cambridge, MA.

Sheperis, C. J., Young, J. S., & Daniels, M. H. (2016). *Counseling research: quantitative, qualitative, and mixed methods*. Boston, MA: Pearson.

Simpson, D., Post, P. G., Young, G., & Jensen, P. R. (2014). "It's not about taking the easy road": The experiences of ultramarathon runners. *The Sport Psychologist*, *28*(2), 176-185.

Sonne, M., & Toennesvang, J. (2015). *Integrative gestalt practice*. Retrieved from http://0-ebookcentral.proquest.com.library.uark.edu

Sothern, M. S., Loftin, M., Suskind, R. M., Udall, J. N., & Blecker, U. (1999). The health benefits of physical activity in children and adolescents: implications for chronic disease prevention. *European journal of pediatrics*, *158*(4), 271-274.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, Calif.: Sage Publ.

Starks, H., & Brown Trinidad, S. (2007). Choose your method: A comparison of phenomenology, discourse analysis, and grounded theory. *Qualitative health research*, *17*(10), 1372-1380.

TEDxTalks. (2012, May 22). What made me run for my life? Retrieved July 07, 2017, from https://www.youtube.com/watch?v=PpZ2LIt7Cfw

TEDxTalks. (2014, January 25). The runner's low - depression & the badwater ultra marathon: Hannah Roberts at TEDxHonolulu. Retrieved July 07, 2017, from https://www.youtube.com/watch?v=EeWCbd6rbzE

Trappe, M., & Hermsmeyer, M. (Directors). (2017). *How One Wrong Turn Changed Jim Walmsley's Career* [Video file]. Retrieved June 27, 2017, from https://www.youtube.com/watch?v=zkdWjq34h5w

Ultra Running Magazine. (2016). Number of Ultrarunning Finishes over time. Retrieved June 27, 2017, from https://ultrarunning.com/featured/number-of-ultrarunning-finishes-over-time/

White, M. P., Alcock, I., Wheeler, B. W., & Depledge, M. H. (2013). Would you be happier living in a greener urban area? A fixed-effects analysis of panel data. *Psychological science*, *24*(6), 920-928.

Warburton, D. E., Nicol, C. W., & Bredin, S. S. (2006). Health benefits of physical activity: The evidence. *Canadian Medical Association Journal, 174*(6), 801-809. doi:10.1503/cmaj.051351

What Is Mental Health? (2017, August 29). Retrieved January 15, 2018, from https://www.mentalhealth.gov/basics/what-is-mental-health

What is Ultra Running? (2013, November 28). Retrieved January 15, 2018, from https://ultrarunning.com/features/what-is-ultra-running/

Williams, K. L., & Galliher, R. V. (2006). Predicting Depression and Self–Esteem from Social Connectedness, Support, and Competence. *Journal of Social and Clinical Psychology, 25*(8), 855-874. doi:10.1521/jscp.2006.25.8.855

Yin, R. K. (2009). *Case study research: design and methods*. London: Sage Publication.

APPENDIX A

UNIVERSITY OF ARKANSAS

To:	Joshua J Cook BELL 4188
From:	Douglas James Adams, Chair IRB Committee
Date:	11/30/2017
Action:	**Expedited Approval**
Action Date:	11/30/2017
Protocol #:	1710081570
Study Title:	THE RELATIONSHIP BETWEEN MENTAL HEALTH AND ULTRA-RUNNING: A CASE STUDY
Expiration Date:	11/19/2018
Last Approval Date:	

The above-referenced protocol has been approved following expedited review by the IRB Committee that oversees research with human subjects.

If the research involves collaboration with another institution then the research cannot commence until the Committee receives written notification of approval from the collaborating institution's IRB.

It is the Principal Investigator's responsibility to obtain review and continued approval before the expiration date.

Protocols are approved for a maximum period of one year. You may not continue any research activity beyond the expiration date without Committee approval. Please submit continuation requests early enough to allow sufficient time for review. Failure to receive approval for continuation before the expiration date will result in the automatic suspension of the approval of this protocol. Information collected following suspension is unapproved research and cannot be reported or published as research data. If you do not wish continued approval, please notify the Committee of the study closure.

Adverse Events: Any serious or unexpected adverse event must be reported to the IRB Committee within 48 hours. All other adverse events should be reported within 10 working days.

Amendments: If you wish to change any aspect of this study, such as the procedures, the consent forms, study personnel, or number of participants, please submit an amendment to the IRB. All changes must be approved by the IRB Committee before they can be initiated.

You must maintain a research file for at least 3 years after completion of the study. This file should include all correspondence with the IRB Committee, original signed consent forms, and study data.

cc: Kristin Kay Higgins, Investigator

APPENDIX B

THE RELATIONSHIP BETWEEN MENTAL HEALTH
AND ULTRA-RUNNING: A CASE STUDY
Consent to Participate in a Research Study
Principal Researcher: J. Justin Cook
Faculty Advisor: Dr. Kristin Higgins

INVITATION TO PARTICIPATE
You are invited to participate in a research study about the relationship between mental health and ultra-running. You are being asked to participate in this study because you have been identified as an ultra-runner.

WHAT YOU SHOULD KNOW ABOUT THE RESEARCH STUDY

Who is the Principal Researcher?
J. Justin Cook
3556 W. Country Meadows St.
Fayetteville, AR 72704
Phone: 417-619-5382
Email: jjc020@uark.edu

Who is the Faculty Advisor?
Dr. Kristin Higgins
Email: kkhiggi@uark.edu

What is the purpose of this research study?
The purpose of this study is to explore the relationship between mental health and ultra-running through the use of a case study.

Who will participate in this study?
You will be the only participant of this case study.

What am I being asked to do?
Your participation will require the following:
> Three interviews, keeping a journal, the researcher joining you for two participant observations, and viewing of online media involving you.

What are the possible risks or discomforts?
There are no anticipated risks or discomforts in participating in this study.

What are the possible benefits of this study?
It is possible for you to have insights into your experiences that you have not experienced.

How long will the study last?

The study will have three 45-minute interviews and an observation that will span over two months' time.

Will I receive compensation for my time and inconvenience if I choose to participate in this study?
There will be a personalized gift basket provided to you for your participation in this study.

Will I have to pay for anything?
There is no cost associated with your participation.

What are the options if I do not want to be in the study?
If you do not want to be in this study, you may refuse to participate. Also, you may refuse to participate at any time during the study. Your relationship with the researcher or the University of Arkansas will not be affected in any way if you refuse to participate.

How will my confidentiality be protected?
All information will be kept confidential to the extent allowed by applicable State and Federal law.
All data collected will be kept in a password protected electronic file. In the written and verbal presentation of this study, your name will be preplaced with a replacement name to protect your identity.

Will I know the results of the study?
At the conclusion of the study, you will have the right to request feedback about the results. You may contact the faculty advisor, Dr. Kristin Higgins or Principal Researcher, J. Justin Cook. You will receive a copy of this form for your files.

What do I do if I have questions about the research study?
You have the right to contact the Principal Researcher or Faculty Advisor as listed below for any concerns that you may have.

J. Justin Cook
3556 W. Country Meadows St.
Fayetteville, AR 72704
Phone: 417-619-5382
Email: jjc020@uark.edu

Dr. Kristin Higgins
Email: kkhiggi@uark.edu

You may also contact the University of Arkansas Research Compliance office listed below if you have questions about your rights as a participant, or to discuss any concerns about, or problems with the research.

Ro Windwalker, CIP

Institutional Review Board Coordinator
Research Compliance
University of Arkansas
109 MLKG Building
Fayetteville, AR 72701-1201
479-575-2208
irb@uark.edu

I have read the above statement and have been able to ask questions and express concerns, which have been satisfactorily responded to by the investigator. I understand the purpose of the study as well as the potential benefits and risks that are involved. I understand that participation is voluntary. I understand that significant new findings developed during this research will be shared with the participant. I understand that no rights have been waived by signing the consent form. I have been given a copy of the consent form.

_____

APPENDIX C

Interview 1 Protocol

1. Tell me who you are and how you are involved in ultra-running.
2. How did you first get involved in running as a past time?
3. How did you decide that you wanted to move into the arena of ultra-running?
4. Tell me about the journey you have been on since making this transition.
5. Is there anything else that you want to add before the end of this interview?

APPENDIX D

Photographs of Living Environment

All photographs taken by author

All photographs taken by author