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The Influence of Martial Arts on the Quality of Life of College Students

By

Benjamin Harris

A dissertation submitted to the faculty of Bellarmine University

in partial fulfillment of the requirements for the degree

Doctor of Philosophy

Spring 2021

INFLUENCE OF MARTIAL ARTS ON THE QOL OF STUDENTS

BELLARMINE UNIVERSITY

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Abstract

Students come to college in order to attain a degree that allows them to improve their quality of life (QOL) after graduating (Morris, 2017). However, the stressors associated with attending, including anxiety depression (Beiter et al., 2014), insomnia, and headaches (Caldwell et al., 2017), negatively impact their ability to be successful. It is then necessary for higher education institutions to address those issues by exploring and creating opportunities that can improve student QOL. The objective of this study is to understand the health-related experiences of students enrolled in a university martial arts club during college.

This qualitative case study is informed by the research that identifies physical, mental, emotional, and social health as being key components of good health. Two students at a university kempo club in the southern midwest participated in the study. Themes were identified and analyzed based on the Integrative Quality of Life (IQOL) theory which recognizes subjective and objective well-being as the two critical aspects of health and wellness. Within that theory is the idea that satisfaction with life, happiness, life's meaning, social norms, fulfillment of needs, and realization of life's potential are the significant factors that influence students' QOL during college (Ventegodt et al., 2003).

Keywords: quality of life, well-being, higher education, college students, martial arts, kempo karate

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Acknowledgements

I began my doctoral experience in 2016 eager to start a new journey in my academic and professional careers. Nearly five years later, I proudly stand on the other end of the program with a PhD in Leadership in Higher Education. I spent days and nights on a keyboard for what seemed like an eternity and ultimately persevered to complete the journey. Most of this work was done independently, but I owe much of my success to those around me.

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Chapter One: Introduction

An Introduction to the QOL of College Students

Individuals go to college to gain a post-secondary education and maximize career opportunities which, in turn, lead to a greater quality of life (QOL; Morris, 2017). An important point to consider, though, is that beyond the financial costs associated with pursuing a degree are several health-related consequences. Research shows that college attendance can be stressful and lead to negative health effects such as anxiety and depression which can not only cause performance to suffer but can also lead to other health problems (Beiter et al., 2014).

Students often worry about living conditions, keeping up with their grades, and navigating the social landscape of their college experience (Beiter et al., 2014). Many also deal with familial pressure and the expectation to perform at a high level which can also cause a high level of anxiety (Beiter et al.). A combination of these behaviors can then lead to a lower satisfaction with life, insomnia, headaches, and common colds (Caldwell et al., 2010). While college is seen as an opportunity to advance in society, there are many students who suffer the consequences of attending.

The health risks discussed here are significant reasons why this research study is being conducted and justification for why QOL should continue to be addressed by academic research (Deckro et al., 2002). A review of that literature revealed the topic of martial arts which emerged as a having a positive influence on the health of practitioners (Gallant, 2016). The research identified in this study suggests that martial arts programs can be investigated as a possible mechanism that higher education institutions can use to improve students' QOL. Therefore, the overarching research question asks, How does martial arts participation influence the quality of life of college students?

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The research question emerged from research that shows that students are at risk of a low QOL during college (Beiter et al., 2014). To address the problem, research from both qualitative and quantitative studies are presented to evidence the current opportunities that are available to students to improve their QOL during college. In order to do so, however, a definition of QOL must be identified to provide context to the study.

Quality of Life

QOL, according to the World Health Organization (WHO; World Health Organization, 2016), is the state of physical, mental, emotional and social well-being not limited to the absence of disease. More specific ways to describe QOL include life satisfaction happiness, financial health, the absence of stress, anxiety, sadness, and more (Theofilou, 2013). Overall, those with a high QOL demonstrate good physical ability, the ability to self-regulate, and have healthy mental, emotional, and social well-being (Sanford & Gill, 2018).

Presently, QOL is used by The Princeton Review as one of their ranking categories for colleges. 143,000 students enrolled in over 300 institutions are asked survey questions related to the safety and beauty of their campus, their dorms, food, campus layout, recreational facilities, administration, student friendliness, diversity, and personal happiness, all of which contribute to college students' well-being and overall QOL. As previously discussed, students are often affected by accommodation, academic performance and support, and overall college experience. Only the top twenty colleges with the best QOL are featured on Princeton Review's Best Quality of Life list, and they are recognized as having student-friendly campuses that are conducive to having a healthy college campus and community (Princeton Review, 2019). The following section discusses the importance of physical activity on the ability to self-regulate and improve well-being.

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The Importance of Physical Activity, Self-Regulation, and Well-Being

Physical activity. Physical activity is a key component of all martial arts which offers more than just physical benefits. The American Heart Association (AHA, 2019) recommends that adults (ages 18 and older) exercise moderately for at least 150 minutes weekly or 75 minutes vigorously over the same time period. However, individuals who study martial arts gain the benefits of physical exercise while gaining other benefits to be discussed shortly. The Center for Disease Control and Prevention (2019) report that regular physical activity can improve cardiovascular, mental health, cognitive function, and reduce the risk of high blood pressure. Basic physical exercise is a common way people maintain their personal well-being and support a healthy lifestyle. This can be through sports, dancing, or going to the gym. Martial arts, by its nature, can provide these benefits, and practitioners continue to adopt them as an alternative to many other popular physical activities. Exercising regularly can be a significant factor in a person's ability to self-regulate (Sanford & Gill, 2018).

Self-regulation. The term self-regulation is a person's ability to manage their personal needs while fulfilling their societal responsibilities. In short, it occurs when an individual's ability to achieve personal fulfillment outweighs their feelings towards their fulfillment of society's needs (Baumeister et al., 2013). Moreover, Sandord and Gill (2018) identify self-regulation as the ability for someone to make behavioral choices that help them reach their goals. They also discussed the influence martial arts training can have on self-regulation. According to Sanford and Gill, the consistent practice of muscular control subsequently leads to the ability to self-regulate in other areas of life. It was also found that the longer individuals trained, the more self-control and will-power they demonstrated which positively impacts their ability to maintain good physical, mental, and emotional health

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Well-being. Well-being is a concept that is, to a certain degree, reliant on physical activity and self-regulation. It stems from a person's ability to balance their physical, mental, emotional, and social resources with the challenges associated with each component (Dodge et al., 2012). This means that a person can successfully deal with life's day to day issues while maintaining a healthy level of happiness and is a common descriptor for peoples' overall life vitality. Physical activity, self-regulation, and well-being significantly contribute to a students' ability to be healthy during college. Unfortunately, though, there are countless students who will not get the opportunity to attend exemplary institutions and many will need tools to maintain a healthy QOL. One of the mechanisms that students can use to do so and can be implemented on campus through clubs, extracurricular, and recreational programs (CERs; Foubert & Grainger, 2006).

An Introduction to Clubs, Extracurricular, and Recreation Programs

Students who participate in clubs, extracurricular, and recreational (CERs) activities benefit in several ways. A study by Foubert and Grainger (2006) found that students who participated in those on-campus programs had an improved sense of purpose, life and career management skills, and were more educationally and culturally engaged. In support, Kim and Bastedo (2016) argue that students who participate in CERs demonstrate the soft skills that employers seek in potential hires such as interpersonal communication, leadership, and problem-solving skills. These benefits could be attributable to the CERs providing a positive environment that simultaneously allows them to interact with their peers (Burns et al., 2015).

Career fulfillment was one of the long-term benefits of CERs. Kim and Bastedo (2016) also found that students who participated in CERs during college had greater job satisfaction during their careers. Those students reported greater salaries, job outlook opportunities, and

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satisfaction in their roles than students who did not participate in CERs (Kim & Bastedo, 2016).

One extracurricular activity that emerged from the research as a way to improve QOL was martial arts (Burke et al., 2007).

An Introduction to Martial Arts

The term martial arts is generally used to describe the various combative arts that are studied around the world. Translated to ‘military arts’, they stem from the need to protect one’s self against an enemy’s attack, or to escape a dangerous situation. They have always been linked to physical development but are also used to enhance character and spiritual development (Burke et al., 2007). One example of this is the increase in participation for family development over the last thirty years to enhance self-confidence, moral development and life preparation (Lantz, 2002).

Furthermore, the University of Bridgeport (2019) describes martial arts practice as a way to improve self-esteem, mental sharpness and focus, and an increased sense of fulfilment which also contribute to the ability to self-regulate. Further research by Burke et al. (2007) shows martial arts can enhance physical, mental, emotional, and social well-being. How, then, are martial arts present in higher education institutions?

Martial Arts Programs in Higher Education

In 2004, the University of Bridgeport became the first higher education institution to offer a B.A. degree in martial arts and can be used as an example of how to implement a bachelor's degree program. Bridgeport (2019) argues that martial arts can improve self-esteem, develop mental acuity, and provide a sense of accomplishment amongst practitioners. Although they discontinued their BA in Martial Arts program in 2019, they became an example of how programs could be implemented in higher education. Bryan College in Tennessee has a

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residential undergraduate martial arts academy that is tied to religious studies and simultaneously allows students to earn a black belt in Isshinryu Karate while receiving credit for training (Bryan College, 2019). Another institution, Radford University in Virginia, offers a minor in Asian Martial Arts where students study the principles and applications of self-defense, as well as world martial arts (Radford University, 2019). While there are only a few, institutions have credit-based programs like Bryan College and Radford University, serve as evidence that martial arts can be recognized as a legitimate topic of study by higher education institutions.

There are other institutions that offer martial arts clubs on their campuses, but students do not receive course credit for participating, and are recognized as extracurricular activities. As discussed by Burns et al. (2015), students clubs and recreational programs serve as a positive environment where students can build relations and learn skills they need to thrive long-term (Kim & Bastedo, 2016).

Significance of the Research

As a result of this research, more higher education institutions will be informed of how students' QOL are impacted during college. Furthermore, colleges and universities will better informed of the opportunities that are available to students to improve their QOL while they are enrolled. By contributing to the research on martial arts programs on college campuses, students can be exposed to self-regulation techniques that improve their chance of being successful during as well as after college. Furthermore, higher education institutions can develop more ways to support students' mental, physical, and emotional health throughout their college experience which can lead to improved immediate and long-term QOL.

It is especially important to be able to maintain a high QOL due to the many factors associated with it and the health risks associated with a low QOL. People with a low QOL are at

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a higher risk of depression, drug and alcohol abuse, and lowered self-esteem which all lead to negative behaviors and poor decision-making (Garett et al., 2017). Physical, mental, and social well-being are thus compromised, and life responsibilities may suffer as a result. The subjects of this study, college students, are at-risk of a low QOL due to a number of factors related to college attendance including living conditions, social and academic pressures, overall satisfaction with college life, and life in general (Sirgy et al., 2010). The purpose of this study, then, is to identify how martial arts training influences the quality of life of college students.

Methods

This instrumental case study uses the constructivist paradigm as the lens to evaluate the research presented on the topics of QOL and martial arts. The integrative quality of life (IQOL) theory is then used as the theoretical foundation to identify the influence martial arts has on the QOL of college students. The IQOL theory, described by Ventegodt et al. (2003) identifies two QOL categories – subjective and objective. On one hand, subjective QOL describes satisfaction with life, happiness, and life meaning. On the other hand, objective QOL describes social norms, fulfillment of needs, and realization of life potential (Ventegodt et al., 2003). The IQOL theory argues that the aforementioned components combine to make up a person's existential QOL.

Interviews, documents, and artifacts described in this case study were attained through virtual semi-structured interviews, email and text message, and by investigating organizational resources. Interviews were conducted on a personally owned electronic recording device, and data was transcribed and interpreted in a reasonable amount of time to ensure quality analysis of the data. Similarly, documents and artifacts were collected and examined on a secure electronic device. After a thorough examination of data, content analysis was used to further understand

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and establish the themes within them. A combination of the data types leads to an understanding of how martial arts influences the QOL of college students.

The study examines a university martial arts club in the southern midwest which is discussed in greater detail in Chapter Four. An exclusion criteria was established for students under the age of eighteen are to protect from potential liability issues related to working with minors.

Limitations

A limitation that should be noted is that this study was briefly interrupted due to the onset of the coronavirus pandemic and subsequent quarantine lockdowns. There were significant efforts made by prospective institutions as well as researchers to ensure the safety of all parties involved. While this was maintained, future studies would benefit from a continuous process when university clubs are open and in session throughout the duration of the study. Where possible, this would allow the researcher to conduct face-to-face interviews as opposed to FaceTime or Zoom which could allow for more thorough observations and in depth findings. Before reviewing the existing literature on the topic, it is necessary to provide definitions of key martial arts and QOL-related terms.

Definitions of Key Terms

Aikido – A soft, non-competitive martial arts style that originated in Japan and uses throwing techniques as its primary method of practice (Friedman, 2016).

Brazilian Jiu-Jitsu – A martial sport from Brazil that uses joint locks and strangleholds to force an opponent to submit in a grappling match (Follmer et al., 2017).

Capoeira – A martial arts style from Brazil that uses acrobatic kicks and punches to deceive opponents (Robitaille, 2014).

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Clubs, Extracurricular, and Recreational Activities (CERs) – Activities that take place voluntarily, outside the classroom without the opportunity for course credit. CERs must be governed by the institutions Student Government Association, not the institutional administration.

External Style – Martial arts styles that primarily rely on physical strength and speed to achieve proficiency for use in competitions (Tadesse, 2017).

Grappling Styles – Martial arts styles that are practiced from the ground with the aim of submitting an opponent by use of joint locks and holds (Diesselhorst et al., 2012).

Internal Style – Also called soft styles, internal martial arts styles are characterized by the focus on a practitioner's mental, spiritual, and internal power (Tadesse, 2017).

Judo – A competitive style that originated in Japan and primarily aims to throw or flip opponents from a standing position (Demorest & Koutures, 2016).

Karate – Originated in Japan, karate styles can be practiced traditionally or for sport and can emphasize several methods of attack and defense (Arriaza et al, 2015).

Kung Fu – Originated in China, kung fu styles can be practiced traditionally or for sport. The most popular style, tai chi, is a soft style that is practiced to achieve peace of mind and serenity (Zetaruk et al., 2005).

Martial Arts – A general term used to describe the various combative arts that are studied around the world (Burke et al., 2007).

Mixed Martial Arts – A combat sport that combines the use of techniques from different styles to compete in a ring or octagonal-shaped cage or ring (Demorest & Koutures, 2016).

Muay Thai – A competitive fighting style from Thailand that emphasizes kicks, punches, knee and elbow strikes (Vail, 2014).

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Quality of Life (QOL) – The state of physical, mental, emotional, and social well-being not limited to the absence of disease (World Health Organization, 2016).

Self-Regulation – A person's ability to manage their personal needs while fulfilling their societal responsibilities; a person's ability to fulfill both personal and societal needs (Baumeister et al., 2013).

Striking Style – The term used to describe blocking, kicking, punching, knee, and elbow methods (Demorest & Koutures, 2016).

Tae Kwon Do – Hard, sport martial arts style that originated in Korea and emphasizes kicks as the primary method of attack (Zetaruk et al., 2005).

Well-Being – A person's ability to balance their physical, mental, emotional, and social resources with the challenges associated with each component (Dodge et al., 2012).

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Chapter Two: Literature Review

Background

The World Health Organization (2016) describes QOL as a person's physical, mental, emotional, and social-well-being. More specific ways to describe QOL include life satisfaction and overall well-being, happiness, financial health, the absence of stress, anxiety, and sadness (Theofilou, 2013). In short, QOL can be encapsulated by the idea of being healthy in areas of life including but not limited to the absence of disease. People with a low QOL are at a higher risk of depression, drug and alcohol abuse, and lowered self-esteem (Garett et al., 2017). Moreover, college students are at risk of having a low QOL during college due to accommodation, academics, and the social aspects of college (Sirgy et al., 2007).

The current study investigates QOL in relation to college students and aims to find how martial arts participation influences the QOL of college students. Factors that influence students' QOL include living environment, academics, and social involvement. If those needs are not met, college students may be at risk of depression, drug and alcohol abuse, and lowered self-esteem (Garett et al., 2017). By identifying a mechanism to improve their QOL, students can have a better chance at having a positive college experience and being successful after graduation.

This chapter begins with a discussion of the QOL of college students and the risk factors associated with attendance. In response to the concerns in relation to their accommodation, academics, and social life (Sirgy et al., 2007), clubs, extracurricular, and recreational activities (CERs) are explored as a mechanism to combat those issues. An overview of martial arts as a CER then follows to understand them and how they influence both general and student-practitioners. In closing, the strengths and weaknesses of the research are described to address significant findings as well as gaps in the research.

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Search criteria used to research the literature were key terms related to QOL, college students, and martial arts. Most of the articles included were published between 2009 and 2019, but older studies are used to support the literature where necessary. Factors related to QOL (physical activity, self-regulation, and well-being) are discussed in relation to college students, and in relation to martial arts.

Quality of Life of College Students

During college, stressors can include living conditions, maintaining good grades, and social involvement (Beiter et al., 2014). The Quality of College Life (2007; QCL) model (to be discussed in the next section) identifies similar factors that influence the QOL of students during college. For many, the lack of ability to effectively cope causes anxiety. As a result, they can develop insomnia, headaches, and common colds, all of which are common symptoms of being stressed. Overall, this shows that college students' QOL may suffer as a consequence of college attendance (Caldwell et al., 2010). A deeper exploration of the subject shows that students who have a low QOL are more likely to be depressed, addicted to drugs and alcohol, and low self-esteem (Garett et al., 2017).

This is especially relevant because many students attend college because of their desire to improve their lives. By attending college, students hope to advance in society by getting good jobs and earning good salaries post-graduation (Deckro, 2002). However, students may find it difficult to maintain a high QOL because of the factors mentioned. One solution for this is participation in clubs, extracurricular, and recreational activities (CERs) while in college. The Quality of College Life theory (Sirgy et al., 2007) further discusses factors that students are at risk of while attending college or university.

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The Quality of College Life Model

In order to better understand the college experience in relation to QOL, Sirgy et al. (2007) developed a scale to adequately measure the quality of college life (QCL) of students. Whereas QOL identifies a broad range of factors to describe a person's overall QOL (including physical, mental, emotional, social, and financial health), QCL aims to address factors that are specifically tied to the college life. The scale identifies three areas that have a significant influence on students and are similar to the three areas identified by Princeton Review's Best QOL Survey. The three factors identified by the QCL model are satisfaction with academic performance, satisfaction with social aspects of college, and satisfaction with facilities and services.

Factors related to satisfaction with academic performance were satisfaction with faculty, teaching styles, classroom environment, student workload, academic reputation, and academic diversity. Factors to address satisfaction with social aspects of college were on-campus housing, international programs and services, clubs and parties, athletics, and recreational activities. For satisfaction with facilities and services, the library, transportation and parking, healthcare services, bookstore, telecommunications, and satisfaction with the recreation center were identified as significant factors (Sirgy, et al., 2010).

In contrast to the study conducted by Sirgy et al. (2010), the purpose of the present study is to assess the larger concept of QOL that impacts students throughout their lives. Whereas the QCL model identifies satisfaction with academic performance, social aspects of college, and satisfaction with facilities and services, this study takes students' individual health into account, including physical, mental, emotional, and social health, as well as the ability to self-regulate. By being able to identify mechanisms to improve students' QOL during college, higher

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education institutions can equip them with strategies they can use to improve their QOL. In this case, the mechanism being discussed is martial arts which can be present as clubs, extracurricular, and recreational activities. Additionally, while the QCL is a suitable framework to investigate students' QOL while in college, it will not be used as the theoretical framework of this study. While the QCL model identifies QOL within the context of the college setting, the larger concept of QOL is addressed in this study as discussed by WHO (2016).

Clubs, Extracurricular, and Recreational Activities

A Working Definition

Bartkus et al. (2012) conducted a literature review to identify a working definition of the term. In their discussion, several operational categories were identified as measurements of extracurricular activities (ECAs). Some of the terms used were college, recreational, or intramural sport, club, and special interest group. In a further review of existing definitions of extracurricular activities, the common theme they identified was that ECAs are activities that take place voluntarily, outside the classroom, have no opportunity to earn a grade or course credit, and are governed by the student government association as opposed to the institutional administration. Upon a review of the preexisting literature on the topic, they proposed the following:

Extracurricular activities are defined as academic or non-academic activities that are conducted under the auspices of the school but occur outside of normal classroom time and are not part of the curriculum. Additionally, extracurricular activities do not involve a grade or academic credit and participation is optional on the part of the student.

(Bartkus et al., 2012, p. 698)

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The discussion by Bartkus et al., (2012) also went on to distinguish between what they described as direct and indirect ECAs. Whereas direct ECAs are closely associated with a student's major, indirect ECAs are relatively or completely unrelated to a student's academic requirements. An example of a direct ECA can be drawn from Bridgeport University's bachelor's degree program which ties their martial arts component directly to their degree requirements. Conversely, an indirect ECA would have no impact on a student's graduation eligibility.

This clarification helps to define the context in which martial arts can be studied in higher education. It also highlights the opportunities that can be presented as a result the findings. Additionally, the inclusion of recreational sports and clubs (Bartkus et al., 2012) help to clarify how the terms interrelate with one another. The distinction also provides justification for the use of the terms *clubs*, *ECAs*, and *recreational activities* interchangeably when describing those on-campus activities. Though they provide a suitable definition of the terms, Bartkus et al. (2012) do not identify the benefits of them.

Benefits of Clubs, Extracurricular, and Recreational Activities

A study by Foubert and Grainger (2006) found that students who participated in clubs reported greater psychosocial development than those who did not. Their study adopted Chickering's (1993) seven vectors of student development which uses seven stages to describe components of student development: *Developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, developing purpose, and developing integrity*. Chickering and Reisser (1993) argue that these vectors identify needs that are essential for student development.

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Specific factors reported by Foubert and Grainger (2006) study were that students who participated in clubs during college had a greater sense of purpose, educational and cultural involvement, life management, and career planning. Considering these findings, it would be feasible to conclude that participating in clubs may prepare students for life after college, specifically as it relates to employment. This is supported by Kim and Bastedo (2016) who conducted a study to identify the influence extracurriculars have on job prestige and satisfaction after college.

Kim and Bastedo (2016) explored the influence extracurricular activities had on students' post-college careers. Results of the study revealed that participating in extracurricular activities support development towards their future careers. This was explained by their ability to demonstrate the *soft* skills that employers look for in new hires which include interpersonal, communication, leadership, and problem-solving skills. These *soft* skills are valuable, but they only highlight some of the attributes that employers look for. Their study revealed that along with academic factors are non-academic factors that students practice as a result of ECA participation, such as motivation and organizational leadership skills attained through leadership roles assigned while in the club.

The study by Kim and Bastedo (2016) also validated findings by citing Bronfenbrenner's ecological systems theory (EST). The EST argues that a person's environment significantly impacts their development. In that discussion is the idea that the interactions between that environment and the people within it also influence their development (Burns et al., 2015). Kim and Bastedo (2016) used the EST to support their findings that ECA can improve students' social connections, promote cultural values, and prepare them for problem-solving over time. Upon further analysis, it is appropriate to use the EST to support research that finds positive outcomes

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of college students who participate in ECAs. Not only did they describe the immediate benefits, they also went on to describe long-term advantages of participating in them.

Ultimately, Kim and Bastedo (2016) found that those who participated in ECAs also found more satisfaction in their jobs. In the research, job satisfaction was explained by four factors: payment, promotion opportunities, job security, and importance. Students who participated in ECAs during college were happier with their salaries, had greater job outlook opportunities, and felt better about the roles they served. As discussed in Chapter 1, these are factors that influence students to initially attend college. Kim and Bastedo (2016) did mention, though, that the type of activity or club was critical in finding a positive association between job satisfaction and ECA involvement. That is an important point to recognize, as it indicates that all clubs and organizations do not provide the same benefits. Martial arts, which can be offered as an ECA, may be a suitable mechanism to explore for college students to improve their QOL.

An Overview of Martial Arts

Martial arts were developed as various forms of fighting for times of conflict when long-range weapons were not yet the primary mode of combat (Martinkova & Parry, 2016). They were practical methods of self-defense (and offense) that could be used to inflict severe harm to an enemy. Martina and Parry (2016) also explained that as time progressed, long-range firearms and times of peace removed the need for close-range combat.

By removing the need for close-range fighting, martial arts, in effect, evolved to be used for other purposes including therapy, historic re-enactments, culture, performance and entertainment, and sport. Yoga, considered a healing art and form of therapy, is often grouped with martial arts due to its emphasis on physical, mental, and spiritual well-being (Burke et al., 2007). However, the practice is excluded from this study due to its lack of use of self-defense.

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These distinctions are integral to understanding the philosophies martial arts styles and are critical in how different styles are practiced. While all of them include a certain degree of the previously mentioned purposes, it is important to also recognize that each style has characteristics that are vital to the ways they are applied. Understanding this can be helpful in considering them in the context of higher education program development.

Martial Arts in Higher Education

In 2004, an estimated 6.5 million children in the United States participated in martial arts, and has continued to grow since (Arriaza et al., 2016). Furthermore, a research article by Gupta (2011) estimated that they were practiced by up to 8 million people in the United States. In effect, martial arts programs have become more present in higher education to capitalize on the benefits that they provide. This would eventually lead to University of Bridgeport's Bachelor's in Martial Arts program. The University's College of Public and International Affairs (2018) cites history, philosophy, language, and culture as foundational aspects of their martial arts curriculum. Bridgeport's program offers three curriculum tracks that students can choose from: Tae Kwon Do, Japanese Martial Arts, and Taiji. The Tae Kwon Do Track focuses specifically on the Korean art. The Japanese Martial Arts Track offers classes in judo, karate, kobudo (weapons) and kata/kumite. Last, the Taiji track addresses issues in Chinese martial arts, taiji, and qigong training.

Not only can students develop themselves through martial arts, they can also benefit by being exposed to cultural elements that can be used in academic areas (University of Bridgeport, 2019). The University of Bridgeport also suggests that through martial arts training, students can develop self-esteem, mental acuity, and a sense of accomplishment while also citing

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psychosocial, and societal benefits of their martial arts program which could be attributed to the historical, philosophical, and cultural elements they are exposed to through studying martial arts.

The University of Bridgeport is unique in that it is the only higher education institution in the United States that offers a B.A. in martial arts. However, Radford University does allow students to attain a minor in Asian martial arts with a focus on self-defense and world martial arts (Radford University, 2019). Moreover, though it is not a martial arts degree-granting program, Bryan College allows individuals to gain academic credit while attaining rank in Isshinryu Karate (Bryan College, 2019).

Other opportunities for training have become more present across higher education through clubs, extracurricular, and recreational activities. Some institutions that offer programs to students are Indiana University (2019), University of Louisville (2019), and Boston University (2019). Students can participate in them without gaining course credit, but can still gain the physical, mental, emotional, and social benefits that come with participating in clubs and extracurricular activities (Foubert & Grainger, 2006). One benefit of martial arts is that there are many classifications and styles of them that higher education institutions can explore in order to identify the most suitable opportunities for their students to practice to their QOL.

How Martial Arts can Influence QOL

Research has shown that consistent participation in martial arts has the potential to improve a person's character, moral values, physical health (Martinkova & Parry, 2016), all of which lead to the ability to have a good QOL. In the context of this study, good physical activity, the ability to self-regulate, combined with good mental, emotional, and social well-being allow individuals to maintain a good QOL.

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Physical health benefits. Regular physical activity may be the one factor that all martial arts share. Regardless of the intensity, intent, or method of the training, all of them incorporate some sort of physical movement and exercise. For example, while tae kwon do can be intense and reliant on physical fitness (Zetaruk et al., 2005), tai chi generally uses slow, methodical movements and is low in intensity (Fields, 2011). Both of them are useful depending on personal need. However, since the benefits of physical exercise can be considered common knowledge, the benefits of physical health are limited in this literature review. Instead, the influence of martial arts on self-regulation, mental, emotional, and social well-being are discussed in greater detail.

Self-Regulation benefits. Sandford and Gill (2018) reported that traditional martial arts (TMA) practice, over time, can have a positive effect on the ability to self-regulate. They described TMA training as a regulatory exercise that targets self-control, willpower, moral capacity, and critical thinking. Furthermore, they found that martial skills training improves self-esteem and determination. Individuals seem to develop formal etiquette and foster a sense of respect through the training strategies and cultural values that are tied to the different styles. The ability to cope then becomes a major benefit associated with practicing martial arts, and that leads to a greater ability to self-regulate.

One factor they attribute to this is the discipline and control required to avoid over-doing a movement to the point of causing injury to one's self or training partner (Gallant, 2016). Furthermore, as a result of training, students can develop their capacity for introspection and self-reflection. This may be explained by the meditative practices found in TMA training which can improve self-confidence and self-control (Gallant, 2016). That may be true, but those benefits could be due to the confidence that comes from being able to defend the self from

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physical harm. Between the habits formed through repetition, the ability to reflect on training experiences through meditation, and self-efficacy developed through training, martial artists can develop self-regulation skills and can cope with life's responsibilities (Sandford & Gill, 2018).

Mental health benefits. The literature discussed so far supports the idea that martial artists practice can improve individuals' physical health, but there can also be benefits to mental health. Burke et al. (2007) found that martial arts participation enhanced practitioners' overall mental health and well-being. Their findings revealed that practice can improve mental focus and sharpness, concentration, and decision-making which could be explained by the meditative practices that are associated with the training, such as kata. Kata is a set of prearranged movements that imitate fighting or combative situations and are considered to be a form of movement meditation (Martinkova & Parry, 2016). Moving meditation can be beneficial, and regular practice has the potential to improve impulse control, planning, prioritizing, task initiation, and organization skills (Gallant, 2016).

A fundamental aspect of meditation or meditative practices is mindfulness, or the ability to focus on the present moment. Mindful training occurs when practitioners focus their attention on the details of their practice. This could include breathing exercises, kata, or other elements of training where discipline and focus are needed to successfully complete them. Another effect of these practices is that students also learn how to take control of their movements and be intentional about everything they do (Sandford & Gill, 2018).

Emotional health benefits. Academic research has found that martial arts practitioners, over time, show a decline in aggression. Compared to students in rugby and badminton clubs, undergraduates who participated in karate and ju-jitsu clubs showed lower levels of verbal hostility and assaultive behavior (Daniels & Thornton, 1992). Nosanchuk and MacNeil (1989)

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also conducted quantitative study where they visited seven dojos to assess the relationship between the respective martial arts styles and aggressiveness. Their findings revealed similar results that showed that martial arts participation could have an adverse effect on aggressiveness. However, an interesting finding was that whereas traditional martial artists' aggression levels decreased with length of time training, competitive practitioners' aggression levels increased over time. This, they suggest, can be explained by the incorporation of meditation into training (Martinkova & Parry, 2016).

Another relevant finding in the research is that practitioners can build confidence by training and gaining rank in their preferred style (Sandford & Gill, 2018). Each martial arts style gives students opportunities for belt tests to assess the competence of their methods, skills, and knowledge. The tests usually take place in front of their peers, and practitioners are assessed for proficiency by their instructors. In this, they demonstrate their perseverance through the physical and emotional challenges they faced during training. Belts are used to signify rank and proficiency in a certain style. Not only does it assess students' capabilities, it also gives practitioners the opportunity to demonstrate their skills to their peers (Sandford & Gill, 2018).

Upon successful completion of a belt test or rank increase, practitioners they feel like they have successfully achieved something and thus become more self-confident. Their ability to perform a kata or demonstrate other methods allows them to see the growth they have made over time. That self-confidence, in effect, helps them feel a sense of accomplishment and subsequently feel happier and more confident about themselves. As a result, they also become better goal-setters and decision-makers in their daily lives which contribute to their overall ability to be successful in college (Sandford & Gill, 2018).

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Social benefits. Beyond the physical, mental, and emotional benefits described martial arts practice provides opportunities for camaraderie. Muay Thai and Capoeira, for example, are examples of how martial arts can be used for social and cultural development (Vail, 2014; Robiaille, 2014). Both styles are identified by their countries of origin as symbols of national culture and pride and incorporate music and dancing into their competitions. Additionally, other arts provide opportunities for social development by fostering a spirit of respect and promoting formal etiquette. This is also highlighted in belt or rank tests where students demonstrate those areas in the presence of each other (Sandford & Gill, 2018). Both routine training and competitions seem to provide ample opportunities for individuals to develop socially.

Furthermore, Rao (2008) suggests that martial arts training, when led correctly, can be used to promote social acceptance. A martial arts program can be modified to fit the needs of practitioners of all levels and with varying physical abilities. Martial arts teachers can potentially challenge traditional views on acceptance by reconstructing the idea of competence-based proficiency. Through that, practitioners may develop what he calls the sociology of acceptance and allows opportunities to select and modify styles to include different populations (Rao, 2008). Martial arts are classified as being internal/external, traditional/modern, and striking/grappling styles.

Classifications of Martial Arts Styles

Internal styles. Internal or soft styles are characterized by the focus on a practitioner's mental, spiritual, and internal power. Individuals who study internal/soft styles utilize circular movements and force-redirection as a main principle of self-defense. Instead of using force to attack or defend, internal styles promote the use of leverage and redirection as favored methods of movement. Therefore, the use of strength and force are not necessary to be effective

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(Tadesse, 2017). These characteristics make it safe to assume that soft styles are suitable for the elderly, individuals with health conditions, and those who do not have an interest in physical strength training.

External styles. Conversely, external or hard styles are those that rely on physical strength, and often speed, to achieve proficiency. Individuals who study hard styles use force, as opposed circular movements and redirection, to attack and defend. These styles largely focus on competition as the primary goal of training where practitioners can assess their skills against each other in fighting and various other types of competition. Table 2.1 identifies the similarities and differences, as discussed by Tadesse (2017). One downside of competition, though, is that there is an increased risk of injury to competitors (Tadesse, 2017).

Table 2.1

A Comparison of Internal and External Martial Arts Styles.

Internal/Soft	External/Hard
Focus on mental, spiritual, and internal development.	Focus on physical development.
Circular movements and redirection are preferred methods for self-defense.	Direct movements of attack are often used.
Less reliant on strength.	Rules-based competition as major aspect of training.

Note: Adapted from “Martial Arts and Adolescents: Using Theories to Explain the Positive Effects of Asian Martial Arts on the Well-Being of Adolescents,” by M. E. Tadesse, 2017, *Ido Movement for Culture*, 17, p. 10. Copyright 2017 by ResearchGate GmbH.

Modern/sport styles. There are many similarities and differences between modern/sport and traditional arts. For example, sport styles primarily target outcomes related to practitioners’ physical abilities. Those who study these styles train their bodies for competition using strength and skill training to adequately prepare for them (Angleman et al., 2008). In comparison, TMA do use skill and physical training, but that training is used to enhance personal character, moral

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values, overall self-development, and can be tied to educational, religious, and philosophical foundations (Martinkova & Parry, 2016).

What, specifically, does it mean to be a sport? Jenny et al. (2016) explored the characteristics of sport and identified a set of criteria that must be met for an activity to be considered one. In that, they explained that a sport is an organized form of play or rules-based competition. They are comprised of physical skills that are demonstrated by proper use of the body and are recognized as having significant participation. Although physical skills are needed to demonstrate proper fundamentals of sport styles, traditional styles use a different approach.

Traditional styles. Rather than being reliant on sport-related outcomes, TMA are process-oriented and aim for consistency, self-improvement, and personal growth (Gallant, 2016). One way it does this is by incorporating meditation and kata into the training regimen. Practicing kata been found to improve psychological well-being, mental acuity, and self-control. They are present in both modern and traditional styles, but the focus for each group is different (Gallant, 2016). In this type of training, practitioners benefit from physical training while improving areas of their life beyond those directly provided by physical exercise (Gallant, 2016).

One way to identify whether a style is modern or traditional is to look at its name. In martial arts, suffixes are often used to signify whether it is practiced as a sport or traditionally. In a discussion of aikido, Friedman (2016) noted the meaning of the suffixes *jutsu* and *do*. Whereas *jutsu* symbolizes a form of combat, *do* indicates a path or way of enlightenment, or a way of personal and spiritual development (Tadesse, 2017). These examples are present in the distinction between aikido and its predecessor, Daito-ryu Aikijutsu. For example, Daito-ryu is a combative style that philosophically aims to severely harm or kill an enemy attacker. In contrast, aikido derived from daito-ryu, but is used to simulate combat-like situations without seriously

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harming or killing an opponent. It uses previously relevant methods of Daito-ryu Aikijutsu and modifies them to be used for self-development which makes it a modern style (Friedman, 2016).

The same understanding applies to tae kwon do which is practiced as an Olympic sport and in other major competitions governed by the World Tae Kwon Do Federation, for example (Kazemi et al., 2004). Table 2.2 below begins depicts the distinctions between traditional and modern styles of martial arts and is followed by a comparison of popular martial arts styles.

Table 2.2

A Comparison of Traditional and Modern Martial Arts Styles

Traditional	Modern/Sport
Focus on mental, spiritual, and internal development.	Focus on physical development.
Physical strength to enhance character, moral values, and self-development.	Usually develops from a traditional style.
Non-competitive.	Rules-based competition.

Note: Adapted from “Traditional Martial Arts Versus Modern Self-Defense Training for Women,” by A. J. Angleman, Y. Shinzato, and C. B.

Van Hasselt, 2009, *Aggression and Violent Behavior*, 14, p. 91. Copyright 2008 by Elsevier Ltd; “Martial Categories: Clarification and

Classification,” by I. Martinkova and J. Parry, 2016, *Journal of the Philosophy of Sport*, 43, p. 151. Copyright 2016 by Taylor & Francis;

Striking styles. Another common distinction between martial arts styles is whether they are striking or submission arts. Striking is the term used to identify blocking, kicking, punching, knee, and elbow methods. Fighters compete from a standing position and aim to strike opponents using any of the identified methods (Demorest & Koutures, 2016). As opposed to grappling styles, striking styles rarely emphasize or allow takedowns, wrestling, or ground fighting.

Grappling styles. Conversely, grappling styles are practiced from the ground with the aim of submitting an opponent. Submission happens when an opponent is subjected to severe pain from joint locks and other types of physically compromising positions and admits defeat (Diesselhorst et al., 2012). As opposed to striking arts, grappling arts primarily rely on taking

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the opponent to the ground and submitting them through restraint. Table 2.3 below shows a modern and traditional styles and helps to illustrate the differences between martial arts styles.

Table 2.3

A Comparison of Striking and Grappling Martial Arts Styles.

Striking	Grappling
Uses punches, kicks, knees, elbows, and other body parts to hit.	Uses wrestling methods to throw, apply joint locks, and holds.
Aims to knock out or physically injure an opponent.	Aims to restrain and submit an opponent.
Competitive and non-competitive.	Competitive and non-competitive.

Note: Adapted from "Youth Participation and Injury Risk in Martial Arts," by R. Demorest and C. Koutures, 2016, *The American Academy of Pediatrics*, 138, p. 1-2. Copyright 2016 by the American Academy of Pediatrics; "Survey of Upper Extremity Injuries Among Martial Arts Participants," 2012, *Hand Surgery*, 18, p. 153. Copyright 2012 by the World Scientific Publishing Company.

Common Styles in Martial Arts

The classifications of martial arts styles determine the ways they are practiced and greatly influence their foundational principles. Some of the more common styles practiced are tae kwon do, hapkido, karate, aikido, and kung fu. Although each those systems originated in Asia, they each have unique philosophies and forms of expression. Tae kwon do originated South Korea, karate and aikido from Japan, and kung fu and tai chi are from China (Zetaruk et al., 2005).

Tae Kwon Do. Zetaruk et al. (2005) described tae kwon do as a hard, sport style that uses kicks as its primary method of attacking. Its practice requires flexibility, fitness, skill, a high level of energy, and is distinctly recognized for those characteristics, especially in regards to kicking. Kazemi et al. (2009) estimated that it is practiced by 20 million people around the world and continues to grow. This popularity can be attributable to membership in the World Tae Kwon Do Federation which has continued to grow since its recognition as an Olympic sport in the year 2000 (Kazemi et al., 2009).

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Aikido. Kazemi et al. (2019) described aikido and hapkido as being similar to one another, characterized by throwing techniques, and evolving from a Japanese style known as Daito-ryu Aikijutsu. Furthermore, Friedman (2016) described them as practices for close combat on the battlefield when there is no weapon in hand. However, unlike their predecessor, Daito-ryu Aikijutsu, aikido and hapkido are used for reconciliation as opposed to combat. Aikido uses the principles of Daito-ryu and modifies the movements to remove any intent to kill, and when possible, injure an opponent. Aikido practice was used to promote peace and harmony on the island of Japan and was intentionally created from Daito-ryu Aikijutsu to do so. Because of that, competitions are rarely included in the training (Friedman, 2016).

Karate. While some karate styles can be characterized by hard movements, others use soft techniques. Furthermore, some styles are practiced traditionally and others for sport, and some emphasize both elements (Arriaza et al, 2015). Karate was developed in Okinawa (formerly Ryuku kingdom), has a strong Chinese influence, and became a part of mainland Japanese culture during the early 20th century (Johnson, 2012). It is comprised of several different styles that use basic training (kihons), forms (kata), and sparring (kumite) as foundations of practice. Strikes are executed by primarily using arms and legs (Bussweiler & Hartmann, 2012). As indicated by Zeteruk, et al., (2000), some styles incorporate competition as part of the practice while others do not.

Judo. Judo is a hard, competitive style that originated in Japan. It is characterized by throws and takedowns of opponents from a standing position (Demorest & Koutures, 2016). While striking methods can be used in training, they are not allowed in competition. Judo practitioners start from a standing position and attempt to throw or takedown each other (Demorest & Koutures, 2016).

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Kung Fu. There are several kung fu styles, many of which use punches and kicks depending on the style. The most popular style of kung fu is tai chi, a soft style that is often practiced without a physical attacker or partner present (Zetaruk et al., 2005). It is characterized by circular movements and is often practiced to achieve peace of mind and serenity. One way it does this is by promoting a philosophy of life balance. This is indicated by its emphasis on mind and body, movement and stillness, hardness and softness, and forward and backward movement (Li et al., 2001). By recognizing each of life's elements, individuals can improve overall mental health, focus, coordination, and balance. According to Fields (2011), practicing tai chi involves moving through a series of prearranged movements, or postures. While it is not recognized for its physical demands, it is noted for the concentration required to practice (Fields, 2011).

Muay Thai. Muay Thai is a competitive fighting style developed in Thailand that emphasizes kicks, punches, knee and elbow strikes. Muay Thai fights are staged for entertainment and people gather to witness two fighters compete within a square ring. Matches are usually five rounds and are accompanied by traditional music and dancing by both the fighters and other members of the Muay Thai community (Vail, 2014). Not only has it grown internationally, the full-contact fighting style is also recognized by Thailand's government as its national sport to symbolize its culture and heritage (Davies & Deckert, 2018).

Capoeira. Another martial sport that is closely tied to cultural tradition is Capoeira. Capoeira originated in Brazil and was developed by African slaves (Robitaille, 2014). The practice incorporates acrobatic and seemingly gravity defying kicks and punches to deceive opponents. For this reason, it is also tied to cultural contexts that are symbolic of Brazil's past, especially their history of race and racism (Robitaille, 2014). While it is often practiced as a sport, its connection to Afro-Brazilian history and culture make it an important part of Brazil's national

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heritage. Like Muay Thai, Capoeira also incorporates the use of traditional music and dancing as part of its ritual which enhances the cultural richness of the ceremonies (Robitaille, 2014).

Brazilian Jiu-Jitsu. Brazil is also known for another martial sport named Brazilian Jiu-Jitsu (BJJ). It emerged from and shares similar characteristics to wrestling. It was popularized in the 1990's through its use in the Ultimate Fighting Championship (UFC), a mixed martial arts (MMA) platform in the 1990's (Moriarty et al., 2019). It aims to use joint locks and strangleholds to force an opponent submit in a grappling match, making it more of a sport than a traditional martial art (Follmer et al., 2017). Practitioners rely on muscle endurance, strength, flexibility, and power to defeat an opponent (Diaz-Lara et al., 2016).

Mixed Martial Arts. MMA is a combat sport that combines the use of techniques and fighting styles of different systems to compete in a ring or octagonal-shaped cage. It developed out of the need for martial artists to compete against each other to find out which style was strongest (Demorest & Koutures, 2016). Popular striking styles used in MMA are kickboxing, Muay Thai, and karate. Conversely, popular grappling and submission styles are wrestling and Brazilian Jiu-Jitsu (Blue, 2017). For example, a Muay Thai (a striking style) practitioner would then be able to fight against a Brazilian Jiu-Jitsu (a grappling style) practitioner to see which style is superior. The winner is decided by submitting, knocking out, or gaining more points than their opponent (Demorest & Koutures, 2016).

According to Massey et al. (2012), MMA became popular with the formation and promotion of the Ultimate Fighting Championship. Almost thirty years later, the combat sport has continued to grow in popularity and continues to be a platform for competitors from various martial sport backgrounds. MMA combines various styles to be used specifically as combat

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sports and uses them for popularization in mainstream culture (Massey et al., 2012). This is an important distinction in the context of martial arts.

Table 2.4 below highlights the origins and characteristics of the styles discussed and incorporates research from Kazemi et al. (2019); Friedman (2016); Arriaza et al. (2015); Johnson (2012); Bussweiler and Hartman (2012); Li et al. (2001); Robitaille (2014); Moriarty et al. (2019); Follmer et al. (2017); and Massey et al. (2012). Understanding the backgrounds and qualities of different styles then allows the researcher to understand the risks that may be associated with them.

Table 2.4

The Origins and Characteristics of Various Martial Arts Styles

Style	Origin	Defining Characteristics
Tae Kwon Do	Korea	Hard style Modern Competitive Emphasis on kicks
Aikido	Japan	Soft style Modern Non-competitive Philosophical emphasis on peace
Karate	Okinawa	Hard and soft styles Modern and traditional Competitive and non-competitive Punches and kicks
Kung Fu	China	Hard and soft styles Traditional Non-competitive Philosophical emphasis on balance
Tai Chi	China	Soft style Traditional Non-competitive Philosophical emphasis on balance
Muay Thai	Thailand	Hard style Modern Competitive Emphasis on kicks, punches, and elbows
Capoeira	Brazil	Hard style

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		Traditional Competitive and non-competitive Emphasis on acrobatic movements
Brazilian Jiu-Jitsu	Brazil	Hard style Modern Competitive Grappling
Mixed Martial Arts	Inclusive of all arts and origins.	Hard styles Modern Competitive Inclusive of all styles

Note: Adapted from “2004 Olympic Tae Kwon Do Athlete Profile,” by M. Kazemi, C. Casella, and G. Perri, 2016, *Journal of Canadian Chiropractic Association*, 53, p. 145. Copyright 2009 by the Journal of Canadian Chiropractic Association;; “The Japanization of Karate? Placing an Intangible Cultural Practice,” by N. C. Johnson, 2012, *Journal of Contemporary Anthropology*, 3, p. 62. Copyright 2012 by Noah C. G. Johnson; “Tai Chi: Physiological Characteristics and Beneficial Effects on Health,” by J X Li, Y Hong, and K M Chan, 2001, *Brazilian Journal of Sports Medicine*, 35, p. 148. Copyright 2001 by the British Journal of Sports Medicine; “Promoting Capoeira, Branding Brazil: A Focus on the Semantic Body,” by L. Robitaille, 2014, *Music Research Journal*, 34. Copyright 2014 by ResearchGate GmbH; “Youth Participation and Injury Risk in Martial Arts,” by R. A. Demorest, and C. Koutures, 2016, *American Academy of Pediatrics*, 138, p. 2-5. Copyright 2016 by the American Academy of Pediatrics. Copyright 2017 by Journal of Sports Sciences.

Martial Arts Injuries

The current section explores the findings of three studies to identify the injuries associated with the styles discussed earlier in the chapter. The American Academy of Pediatrics (Demorest & Koutures, 2016) conducted a study to assess the rates and types of injuries among youth and adolescent martial artists. Additionally, Zetaruk et al. (2005) explored the injuries related to martial arts participation among participants over the age of eighteen. Lastly, research by McPherson and Pickett (2010) discussed the characteristics of injuries among Canadian participants. None of them directly assessed the rates of injuries among collegiate practitioners. However, the findings can be used to identify the types of injuries that could be associated with martial arts through ECAs.

Injuries by Style

Tae Kwon Do Injuries. Tae kwon do is characterized by its heavy use of kicks and competitions that range from light to full contact. Demorest and Koutures (2016) reported that

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tae kwon do practitioners were three times more likely to sustain injury than karate, aikido, kung fu, and tai chi practitioners. Participants revealed a high number of head and lower extremity injuries from kicks (attacking or defending) and falls. The most common injuries reported were sprains, strains, fractures, contusions, and abrasions. Concussions were also found to be a significant result of tae kwon do training and competition.

Aikido Injuries. Aikido is a style that is most notably recognized for its use of joint locks and throws. A quantitative study by Zetaruk et al. (2005) found that the most common injuries amongst practitioners are ligament and tendon damage and are caused by the joint locks and throws that happen during training (Zetaruk et al., 2005). McPherson and Pickett (2010) also reported weapon use as a cause of injury. This, they mentioned, could be from using a bokken and bo (a Japanese wooden sword and a wooden stick, respectively) where practitioners lost control of their weapons.

Karate Injuries. Karate has many different styles and can be practiced traditionally or as a sport. However, it is mostly practiced as a non-contact sport in the United States. With that in consideration, the most common injuries amongst karate practitioners are sprains, strains, abrasions, contusions, and fractures (Demorest & Koutures, 2016). Furthermore, McPherson and Pickett (2010) found that karate practitioners were at a higher risk of injury compared to taekwondo, judo, kickboxing. In addition to the previously mentioned injuries, subjects also reported dislocations and head injuries as a result of training.

Judo Injuries. Judo's use in competition leads to similar injuries as other competitive styles. However, its emphasis on throwing methods from a standing position leads to a high frequency of sprains/strains, fractures, and contusions to shoulders, hands, wrists, and fingers (Demorest & Koutures, 2016). Demorest and Koutures (2016) also reported a high number of

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hyperextension-related injuries to joints, shoulders, upper-arms, and the neck. Falling as a result of being thrown was identified as the most common mechanism for injury. McPherson and Pickett (2010) also reported that judo practitioners suffer a significant number of neck, shoulder, and upper arm injuries.

Tai Chi Injuries. One unique quality of tai chi practice is that unlike the other styles discussed, it does not require a practice partner or opponent in training. It is practiced with slow, deliberate movements, and does not incorporate sparring or competitive fighting into training (Zetaruk et al., 2005). In a study on karate, tae kwon do, judo, kickboxing, Brazilian Jiu-Jitsu, and aikido, tai chi reported the fewest number of injuries (McPherson & Pickett, 2010). An injury that was noted in the research was a neck strain which was attributed to intense muscular contraction for a prolonged amount of time (Zetaruk et al., 2005).

Muay Thai Injuries. Muay Thai kickboxing can be practiced with varying amounts of protective equipment. The most notable finding in the research is the prevalence of head trauma and concussions amongst practitioners. Other injuries reported were nasal trauma, soft tissue damage, fractures, sprains, and strains, all of which were caused by direct punches, kicks, knees, and elbows. This was also supported by findings that amateurs were twice as likely to suffer injuries as professional fighters (Demorest & Koutures, 2016).

Capoeira. There is limited available research on injuries related to Capoeira.

Brazilian Jiu-Jitsu. Brazilian Jiu-Jitsu is known for its takedown and grappling methods. Moriarty et al. (2019) found that the most common injuries associated with BJJ training and competition were knee, shoulder, rib, neck, and lower-back related. In their study, nearly 60 percent of the injuries occurred during a scramble or transition (any movement other than a takedown, including the application or defense of a takedown), 15 percent during a

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submission, four percent during warm-up, and seventeen percent due to other reasons. In their sample of 1,287 respondents, 59 percent reported experiencing at least one injury during the past six months. At over 50 percent injury-rate, this is enough to be considered a significant risk for practitioners to experience some type of injury while training. In order to better understand the injuries associated with different styles, Table 2.5 below illustrates the common types and causes of injury of the styles as highlighted by Demorest and Koutures (2016); McPherson and Pickett (2010); Zetaruk et al. (2005); and Moriarty et al. (2019).

Table 2.5

Injuries Associated with Common Martial Arts Styles

Style	Injury Types	Causes of Injury
Tae Kwon Do	Head injuries Sprains Strains Fractures Contusions Abrasions	Attacking/defending kicks Falls Sparring
Aikido	Ligament damage Tendon damage	Joint locks Throws Weapon use (bokken and bo)
Karate	Head injuries Sprains Strains Fractures Contusions Abrasions Dislocations	Attacking/defending kicks and punches Falls Sparring
Judo	Neck injuries Dislocations Sprains Strains Fractures Contusions Hyperextensions	Throws/takedowns Falls Joint locks/holds
Tai Chi	Strains	Prolonged muscular contraction
Muay Thai	Head injuries/trauma Nasal trauma Soft tissue damage	Attacking/defending kicks, punches, knees, and elbows Sparring/fighting contests

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	Fractures Sprains Strains	
Brazilian Jiu-Jitsu	Knee, shoulder, rib, neck, and lower-back related injuries	Scrambles/transitions Submission attempts Falls

Note: "Youth Participation and Injury Risk in Martial Arts," by R. Demorest and C. Koutures, 2016, *The American Academy of Pediatrics*, 138, p. 2-7. Copyright 2016 by the American Academy of Pediatrics; "Characteristics of Martial Art Injuries in a Defined Canadian Population: A Descriptive Epidemiological Study," 2010, by M. McPherson and W. Pickett, *BMC Public Health*, 10, p. 5. Copyright 2010 by BMC Public Health; "Injuries in Martial Arts: A Comparison of Five Styles," by M. N. Zetaruk, M. A. Violin, D. Zurakowski, and L. J. Mitchell, 2005, *British Journal of Sports Medicine*, 39, p. 30. Copyright 2005 by the British Journal of Sports Medicine; "Injury Rate and Pattern Among Brazilian Jiu-Jitsu Practitioners – A Survey Study," by C. Moriarty, J. Charnoff, and E. R. Felix, 2019, *Physical Therapy in Sport*, 39, p. 110. Copyright 2019 by Elsevier Ltd.

The *Safetification* of Martial Arts

While injuries are present in martial arts, governing organizations have established ways to improve the safety of practitioners. Martinkova and Parry (2016) explained that in order to protect practitioners from harming one another, changes were made to traditional styles to make them safer. They described these changes as the *safetification* of martial arts to allow individuals to study them as educational activities and more, to be practiced without harmful intent. Similarly, they described this as being the result of a *safetified society* that placed less emphasis on the need for close combat fighting. This would eventually lead to the introduction of training equipment during practice, including a facemask, mouthpiece, chest and groin protection, and foot and shin pads.

Safetification also changed the organizational structure of martial arts training and competition by defining the contexts by which to study, practice, and compete, and by creating rules and codes of conduct. Practitioners could then participate without causing severe harm to themselves or others. Gupta (2011) described an example of this in Olympic Tae Kwon Do which uses a significant amount of safety equipment including head gear, forearm, shin, and instep pads, gloves, groin protection, mouthpiece, and an abdomen guard.

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Understanding the different martial arts styles and the risks associated with them can help institutions and students identify a suitable approach. For example, a student who wants to compete in fighting tournaments may gravitate to tae kwon do (Zetaruk et al., 2005). Conversely, a student who does not want to compete may select an aikido club since competition is rarely a training requirement (Friedman, 2016). Likewise, someone who wants to learn self-defense methods may choose TMA (Martinkova & Parry, 2016) as opposed to tai chi which is rarely practiced as a fighting art (Zetaruk et al., 2005). Essentially, potential practitioners should consider the categories, styles, and injury risks associated with their styles of interest in order to make the most informed decisions about training classification and style.

Selecting a Martial Arts Program or Style

A phenomenological study by Columbus and Rice (1998) revealed several reasons for why people participate in martial arts. Reasons they identified included growth and discovery, task performance improvement, protection from criminal victimization, to cope with life transition, and improved mental health. Furthermore, Foster (2015) conducted a research study to answer the question of why people train their bodies to fight if they never intend to do so. The study began with a discussion that identified several reasons for why individuals train in martial arts. They found that common reasons were status attainment, community development, morality, physical health, and self-defense. The most significant finding, though, was that practitioners use the movements of aikido to be more equipped for life's daily challenges. Foster (2015) argued that through aikido, practitioners became more effective in everyday life, and could deal with social situations as a result. This element was referred to as social defense. Why, then, do individuals choose to study and commit to the styles they do?

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The Psychological Continuum Model

The Psychological Continuum Model (PCM; Funk & James, 2006) explains four criteria that influence a person's commitment to an activity. In support of this study, it can be used to inform higher education institutions of how students choose the styles they do. The PCM essentially aims to understand peoples' attachments to sports or physical activities with the identification of four floors: 1) awareness, 2) attraction, 3) psychological attachment, and 4) allegiance. The PCM is not incorporated into the constructs of this study's data collection, but it is nonetheless helpful in identifying how people become attached to certain styles (Funk & James, 2006).

Awareness. During the awareness phase of activity participation, individuals are exposed to the sport or activity, and for the first time acknowledge the existence of it. Socializing agents such as friends, family, community, and media are mentioned as sources of awareness. At this floor extrinsic features or notable characteristics of the activity are noticed, and the objective of the activity, or in this case, martial art is acknowledged. This also includes learning the basic rules or concepts involved with the participation and can be influential in being attracted to the style (Funk & James, 2006).

Attraction. At this floor of the PCM, individuals engage in the activity for the first time. Funk and James (2006) explain that attraction comes from a need to fulfill a demographic and/or social-psychological based-need. This, they argue, is a critical factor for being attracted to it. Whereas the awareness floor simply identifies exposure to the activity, the attraction stage describes the point at which dispositional influences, or personal preferences and characteristics, become present. Social needs, situation and circumstance, and the need for fun, for example,

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drive someone's attraction to martial arts or other physical activities and becomes an important part of developing an attachment to it (Funk & James, 2006).

Attachment. The third floor, attachment, discusses the development of a psychological or mental connection with a sport or activity. At this stage of attachment people feel a bond with the practice and participating in it becomes more important to the individual. Furthermore, attitudes towards the sport become more intense, participation becomes more frequent, and training is driven by only intrinsic or internal motivations. At this point, the activity also becomes part of the individual's identity and allows them to develop a sense of loyalty and allegiance to it (Funk & James, 2006).

Allegiance. The fourth and final floor of the PCM discusses the loyalty of the practitioner to the organization and the members within it. This stage signifies an individual's long-term loyalty to training activity of choice or martial arts style. Biases against their arts begin to become a factor as they are now loyal to their styles and those they practice with. This level of connection is based almost solely on intrinsic influences and desires. When this floor is reached, an individual is devoted to consistent practice and participation (Funk & James, 2006).

Individuals who choose to participate in martial arts have several options in terms of the type of martial art they want to practice. Potential practitioners must consider their desire to compete, their preferred philosophy of training, and their personal reason(s) for pursuing martial arts. Using the PCM, though, we know that a major factor in that decision is the style or styles they are exposed to. Unfortunately, this also means that individuals may miss out on more suitable styles to fit their personal goals and desires. If they can be introduced to opportunities that also fit their social needs and circumstances, then they are more likely to become attached to

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styles that are most suitable for them. Theoretically, selecting the most appropriate style can have the potential to improve a person's existential QOL as highlighted by the IQOL theory.

The Integrative Quality of Life Theory

The integrative quality of life theory provides a suitable foundation to assess the influence of martial arts on the QOL of college students. The IQOL theory identifies subjective and objective QOL. Subjective QOL is defined by satisfaction with life, happiness, and life meaning. Conversely, objective QOL is defined by social norms, fulfillment of needs, and realization of life potential. Table 2.6 below shows the two categories of the IQOL theory (Ventegodt et al., 2003) and is followed by a further discussion of subjective and objective QOL.

Table 2.6

Categories of the Integrative Quality of Life Theory

Subjective QOL	Objective QOL
Satisfaction with life.	Social norms.
Happiness.	Fulfillment of needs.
Life's meaning.	Realization of life potential.

Note: Adapted from "Quality of Life Theory I. The IQOL Theory: An Integrative Theory of the Global Quality of Life Concept," by S.

Ventegodt, J. Merrick, and J. Andersen, 2003, *The Scientific World Journal*, 3, p. 1032. Copyright 2003 by the Scientific World Journal.

Subjective Well-being

Subjective well-being can be described as the evaluations and feelings a person has towards life's circumstances and conditions. Moreover, the concept can be further described as the level of happiness an individual has towards their experiences in life. Other factors related to subjective well-being are the person's opinions and interpretations about the world around them (Papavlassopoulos & Keppler, 2011).

Objective Well-being

Objective well-being identifies the tangible aspects of QOL including housing and living conditions, employment status, level of education, and health. Researchers at The Ohio State

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University found that objective well-being can be measured by a person's household condition and culture, geographic location and household equipment, place of work/education and commute, and physical condition such as disability or veteran status (Cifuentes et al., 2016). Although these definitions vary, they still support the objective and subjective QOL definitions provided by the IQOL theory.

Whereas objective well-being describes the external aspects of life's condition, subjective well-being identifies the internal perspective on that condition. For example, a person's economic well-being can have a significant influence on their subjective well-being. On one hand, their economic well-being can impact their ability to have their needs met in society. Consequently, their subjective well-being is compromised as a result of their financial status (Papavlassopoulos & Keppler, 2011). The IQOL theory's framework integrates both concepts to explain the larger measure of QOL.

The IQOL theory provides an appropriate framework to study in order to understand the QOL of college students and can further be used as measures to assess the QOL of the participants in this study. The following section describes each aspect of the model in relation to college students and discusses the ways martial arts can impact them.

Using the Integrative Quality of Life Theory to Explain the QOL of College Students

Satisfaction with life. A study of QOL reveals that life satisfaction is a significant factor in relation to a person's overall well-being. The better a person feels about their life, the better chance they have of being healthy (Theofilou, 2013). The better students' academic performance, social health, and satisfaction with facilities and services are, the better chance they have of being healthy during college (Sirgy et al., 2007). Financial health can also impact a person's QOL (Theofilou, 2013). However, financial well-being is excluded as a factor in this

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study due to the financial instability and dependency status of many students who attend college (Xiao et al., 2007).

Achieving life satisfaction through martial arts. One notable finding in the literature is that the longer martial artists trained, the better problem solvers they became. Practitioners, over a period, were more confident in their ability to make decisions, and as a result, increased their opportunities for goal-attainment (Kim and Bastedo, 2016). Over time, they also showed a decline in aggression (Daniels & Thornton, 1992), improved self-esteem, health, and moral capacity (Sandord & Gill, 2018). These broad range of benefits give individuals the tools to thrive and be happy in their daily lives.

Happiness. Like life satisfaction, happiness is one of the factors that describe QOL (Theofilou, 2013). Furthermore, it can be viewed as an extension of life satisfaction in that a person who is satisfied with life is more likely to report being happy. Happiness is achieved when an individual has good emotional health and feels positive about their overall well-being and the life they live. Research has shown that happiness leads to improved satisfaction, production, engagement, attendance, and retention (Fisher, 2010). Those who are happy can manage their emotions better and can cope with life better than those who are not (Woodward, 2009).

Attaining happiness through martial arts. Martial arts practice can lead to physical, mental, emotional, and social benefits. Martial sports such as tae kwon do and Muay Thai involve heavy cardiovascular training and can also be effective for strength training (Zetaruk et al., 2005). Conversely, tai chi practice is often slow and deliberate, and can be useful for the elderly and people who are rehabilitating an injury or health impairment (Fields, 2011). TMA training also involve an intense physical component but has also been linked to improved mental

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acuity and self-control (Gallant, 2016). In addition, martial arts training can improve the ability to self-regulate and manage emotions better (Sandford & Gill, 2018).

Life's meaning. Duffy and Sedlacek (2010) describe life meaning as having a calling or purpose in life. It is often correlated with a career calling and is connected to the idea that their life has a clear meaning. This can be a significant aspect of student development and can impact their interests as well as behavior. Furthermore, the Meaning in Life Questionnaire (MLQ), designed to identify the self-reported level of meaning in a person's life, identifies life's purpose, significance, and mission as key variables to describe life's meaning (Steger et al., 2006).

Finding life's meaning through martial arts. One benefit of martial arts training, specifically TMA, is that it gives practitioners the opportunity to add meaning to their life. Traditional martial artists are exposed to meditation which allows individuals to be introspective and reflect on their experiences (Gallant, 2016). By doing this, individuals tend to be more thoughtful and be more confident in their decisions and actions. Furthermore, belt and rank tests provide opportunities for students to set goals and reach them through the validation of their peers and instructors. Belt tests give students an objective goal in which to pursue and help them to define and validate their training (Sandford & Gill, 2018).

Social norms. College is considered a major point of transition for students. Students, beyond natural growth and physical development, are moving from high school to college which may be their first time being independent. They must learn a new set of social norms and their QOL during college may be at risk because of that. Sirgy et al. (2010) discussed satisfaction with the social aspects of college as a contributor of QOL during the college experience. The ability for them to adjust to those new norms may depend on the opportunities they are exposed

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to that allow them to do so (Funk & James, 2006). That also means that it is up to the students' attending institutions to provide those opportunities for them to engage in.

Learning social norms through martial arts. Aikido is a martial art style that has been shown to help individuals cope with society's challenges. Foster (2015) described aikido practice as being an effective tool in preparing for those challenges through physical development. By mastering the body and its movements, aikido practitioners can improve the ability to cope with social situations and develop what Foster (2015) called *social defense*. Furthermore, belonging to a peer group can have a positive influence on social well-being and can improve interpersonal skills. This can be achieved through aikido programs which can help students to be prepared for the societal norms.

Fulfillment of needs. The ability for students to achieve their goals and objectives in college is synonymous with their ability to make good grades and meet their academic goals. Two aspects of college that students worry about are academic performance and academic support from faculty and staff (Princeton Review, 2019). Academic achievement has a direct influence on students' ability to graduate and fulfill their career aspirations. Moreover, meeting their academic goals can enhance the overall experience of college students. Their performance is directly tied to the opportunities they have during college and then go on to impact their livelihoods afterward (Deckro, 2002).

Needs fulfillment through martial arts. According to Kim and Bastedo (2016), the ability for students to fulfill their needs often depends on the social opportunities provided by the attending institutions. Their research addresses the need for clubs and recreational activities, and adequate facilities to be available to students on campus (Kim & Bastedo, 2016). ECAs help students develop interpersonal, communication, and leadership skills which help students work

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with others and are skills that both peers and future employers place value in. Furthermore, students who participate in ECAs during college were found to have greater satisfaction in their career roles than students who did not (Kim & Bastedo, 2016).

Realization of life's potential. The idea of realizing one's potential is directly tied to the ability to adequately fulfill their needs. Logically, if a student can fulfill their needs, they have a greater chance of being able to realize their potential. Part of the ability to do so, again, may depend on their ECA participation during college which can increase their likelihood of getting a good job and living a life that they are satisfied with (Kim & Bastedo, 2016). One of the benefits of ECA participation is that it enhances the ability to self-regulate. Baumeister et al. (2013) argue that people who can self-regulate have a greater chance of achieving their goals. Their research revealed that not only do they report being able to fulfill society's expectations of them, they also report personal fulfillment as a result of the ability to self-regulate.

Realization of life's potential through martial arts. The previous section described the importance of achievement in realizing one's life's potential. Similarly, Sandford and Gill (2018) discussed the influence belt testing can have on practitioners' feelings of accomplishment. Their study found that belt awards support goal setting, achievement, and self-development. These factors, including the ability to self-regulate, allow individuals to reach their goals, and thus, live up to their life's potential. Additionally, the University of Bridgeport described self-esteem development, self-discovery, and feeling a sense of accomplishment as being outcomes of their martial arts-centered curriculum. Bridgeport's (2018) degree program used tae kwon do, judo, karate, and kobudo (weapons) in their curriculum and can still be used as an example of how martial arts can be used in curriculum design and implementation.

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Strengths of Existing Research

An overall strength of the research is the consistency reported by the martial arts studies included in the literature review. In that regard, TMA were consistently tied to positive outcomes. Although injuries were reported in the research as a consequence of training, traditional practitioners were, overall, reported to have positive outcomes compared to modern martial arts or sports. The findings of the research contribute to the information higher education institutions can refer to when considering programs that can improve students' QOL during college.

Weaknesses of Existing Research

While there is extensive research on the benefits of martial arts, there is a significant gap in the literature on the influence of martial arts on the QOL of practitioners. This extends to the available literature on the influence of martial arts on the QOL of college students. Another weakness in the research is that there is no universal demographic data available on practitioners which may be due to the nonexistence of a single governing martial arts board. Existing studies identify respondent information, but that information is not transferable to other martial arts programs or schools.

One strength that was noted in the previous section was the consistency of findings amongst martial arts studies. This, though, could also be considered a weakness. It is possible to conclude that martial arts participation results in only positive outcomes. However, it could also be inferred that this is indicative of the limited amount of research that has been conducted on the topic. Extended research is seemingly needed to identify negative outcomes associated with martial arts training beyond the scope of injuries.

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The Current Study

Higher education institutions continue to investigate and uncover ways to improve the health of students during college. Academic researchers have found that students who participate in clubs, extracurricular, and recreational activities (CERs) feel a greater sense of purpose, preparedness for life, and employability than those who do not (Foubert & Grainger, 2006). Furthermore, researchers who studied martial arts participation found that practitioners consistently reported improved focus, concentration, and decision-making skills (Burke et al., 2007). The emotional factors found as a result of training were increased happiness and confidence (Sandford & Gill, 2018), and practitioners were also able to build camaraderie, develop a sense of culture, belonging and social acceptance as a result of their martial arts participation (Vail, 2014; Rao, 2008).

The literature presented in this study come from qualitative and quantitative research studies. However, there are gaps in the topics covered by the existing research. First, there is limited research that identifies the influence of martial arts on the QOL of college students. Much of the academic research identifies benefits of martial arts but fails to identify how participation is related to QOL during college attendance. Next, as discussed in the previous section, there are no findings in the literature that address negative outcomes of martial arts training that are non-injury related. Injuries are discussed in the literature but are not tied to overall health outcomes of practitioners. By filling these gaps, higher education institutions will be more informed in identifying how students can benefit from martial arts CERs to improve the QOL of students.

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Chapter Three: Methodology

As indicated in Chapter Two, much of the available research on the health outcomes of martial arts deals with the outcomes of practitioners who are not college students. This case study aims to investigate the topic by assessing the quality of life (QOL) outcomes of college students who practice martial arts. It uses the integrative quality of life (IQOL) theory as the theoretical foundation. QOL, according to the World Health Organization (WHO; 2016) is the combination of a person's physical, mental, social, and emotional health. Ventegodt et al. (2003), however, simply describe a high QOL as having a good life. This chapter begins with a brief overview of qualitative research and case study before discussing the methods used to complete the study. The overarching research question asks the following, thus creating the need for a qualitative approach: How do martial arts influence the quality of life (QOL) of college students?

Qualitative Research

According to Merriam (2002), qualitative research is an exploratory form of research that aims to understand people's attitudes, beliefs, and experiences surrounding a specific phenomenon. As opposed to quantitative research that uses measurable data to answer 'what,' this approach uses descriptive data to answer 'why', or in this case, 'how.' Furthermore, qualitative research allows researchers to understand how people perceive and interact with the society around them. The five major types of qualitative research are narrative, phenomenology, grounded theory, case study, and ethnography (Merriam, 2002). Table 3.1 provides a brief description of them, as described by Merriam (2002).

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Table 3.1

Qualitative Research

The Major Types of Qualitative Research	
Narrative	Analyzes the lives of subjects through stories and narratives.
Phenomenology	Aims to understand peoples' lived experiences within everyday life.
Grounded Theory	Investigates real-world issues to form a theory about that phenomena.
Case Study	Used to describe a phenomenon through detailed descriptions.
Ethnography	Studies the shared experiences and beliefs of people in a culture or group.

Note: Adapted from "Qualitative Research in Practice," by S. B. Merriam and Associates, 2002, *Jossey-Bass*, 4, p. 6-10. Copyright 2002 by John Wiley & Sons, Inc.

While the five types of qualitative research have different qualities, Merriam (2002) also discussed their similarities: 1) researchers aim to understand meanings associated with people's experiences; 2) the researcher is the primary data collection instrument; 3) biases are identified and monitored throughout the research process; 4) qualitative research is inductive by nature; and, 5) uses rich descriptions, including pictures, videos, field notes, quotes, and documents.

Rationale for Qualitative Research

This study utilizes a qualitative approach in order to gain an understanding of how martial arts influences the QOL of college students. Students are at risk of having a low QOL during college. Consequently, this qualitative research study provides the opportunity to understand the experiences of students who train and identify how their martial arts influence their QOL during college. Furthermore, qualitative research allows the researcher to compare the experiences of practitioners with each other, in order to find similarities and differences in their experiences. In this study, an instrumental case study approach is used to find identify how martial arts influences the QOL of student practitioners.

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Research Design

Case Study

Case studies are used to explore real-life issues or phenomena (Crowe et al., 2011). Simply stated, case studies arise from the need to explore, explain, and describe. Additionally, case study research questions ask what, how, and why questions to understand how mechanisms influence participants and why an intervention may or may not be appropriate. They can involve single or multiple cases, and use multiple data collection methods including interviews, artifacts, documents, and observations which allow for an in-depth understanding of the group(s) or unit(s) being explored (Crowe et al., 2011). The three types of case study are *intrinsic, collective, and instrumental*. The first type, intrinsic, is used to understand the uniqueness of a phenomenon. The next type, collective, allow researchers to study multiple cases simultaneously to gain an appreciation for the phenomena. Finally, instrumental case studies investigate a specific case in order to gain a sense of appreciation about the topic (Creswell & Poth, 2018).

According to Creswell and Poth (2018), there are several stages to conducting a case study. Researchers must select the case, collect, analyze, and interpret the data, then report the findings. Throughout the data collection process, researchers must make observations and take notes to identify notable details in the participants' responses. After a detailed analysis of the data, content analysis is used to select categories and themes that identify patterns found in participants' responses (Creswell & Poth, 2018). What are the strengths and weaknesses associated with case studies?

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Case Study Strengths and Weaknesses

Lauker et al. (2012) discussed several strengths and weaknesses of case studies. Strengths they identified are that case studies allow researchers to examine phenomena and their subjects within the real-life contexts that they exist in. Furthermore, the ability to gather data from multiple perspectives and sources allow for an in-depth exploration of topics. Specifically, multiple case studies allow the researcher to gain a deep understanding of a topic from more than one perspective. The three types of case studies that are available allow researchers to use choose the most suitable approach for an identified topic.

The major weakness of a case study is the lack of a clear, universally accepted criteria for methods of analysis. For example, the decision to conduct a single or multi-case study must be made by the researcher and the decision may vary depending on researcher. Similarly, researchers may disagree on whether a case study should be intrinsic, instrumental, or collective. The decisions, however, should be made based on the research question(s) being addressed (Lauker et al., 2012).

Understanding both strengths and weaknesses provides rationale for the researcher when choosing a case study over other types of research approaches. The case study approach was chosen for this dissertation because of the opportunity to study how individuals make meanings of their past and present experiences. The collection of artifacts, documents, and observations in addition to interviews from multiple participants allows the researcher to identify the factors that influence training within the contexts of the participants (Laukner et al., 2012). By using a theory driven approach, the researcher can interpret the findings of a study within a pre-existing framework (Crowe et al., 2011).

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The Current Study

The current study utilizes an instrumental approach to understand how participation in a kempo karate club influences the QOL of practitioners. By using an instrumental case study, researchers can analyze multiple participants within a single unit. While other types of case studies allow for comparisons between cases, this particular approach allows the researcher to gather insightful data into one particular organization or unit (Creswell & Poth, 2018). As discussed in Chapter Two, traditional martial arts (TMA) participation was consistently tied to positive health outcomes. These findings point to the need to identify one particular martial arts club to understand how their particular practices influence practitioners. Furthermore, using multiple points of data such as interviews, observations, document analyses, and artifact reviews provide opportunities for rich, detailed descriptions of the participants' experiences.

Context and Participant Selection

Context. When selecting participants for a case study, the researcher must establish a pre-defined geographic area or group of interest (Crowe et al., 2011). The kempo club explored in this study is located at a large, urban university in the southern midwest. According to the higher education institution's website, it is recognized as a metropolitan research university and identifies itself as a research institution.

The kempo karate club selected for this study is led by a male instructor and is part of a six-member organization (four in-state). There are two member organizations in the immediate area. One branch serves the general community while the observed is limited to attending students of the university. It meets twice a week for two hours each, according to the club's site. Prior to the pandemic, classes were held at the university's campus recreation center. Since then, however, training sessions have been limited to virtual Zoom meetings until it is safe to do so.

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Participant selection. According to Craig et al. (2011), the researcher's plans to recruit and collect data should be established prior to the study. Participants and research requests were chosen based on geographic location and availability. To recruit participants for this study, the researcher contacted the kempo club instructor via e-mail, provided details of the study, and asked for permission to conduct the study. The instructor then informed students of the study's details and provided them researcher contact information. Upon being contacted, plans were then made to conduct the interviews. Students under the age of eighteen are excluded to limit the risks associated with studying minors.

Theoretical Framework

The Integrative Quality of Life theory (IQOL; Ventegodt et al., 2003) is used as to evaluate the data collected in this study. The theory identifies two QOL categories – subjective and objective. Subjective QOL describe satisfaction with life, happiness, and life meaning. Conversely, objective QOL describes social norms, fulfillment of needs, and realization of life potential (Ventegodt et al., 2003).

The IQOL theory is appropriate for this study due to its encompassing definition of QOL. For the purposes of this study, the six categories of the theory are used to guide the research question, and are also used as the themes that research data is analyzed and grouped in. The combined measures identified by the IQOL theory allow for a holistic understanding of the effect martial arts participation has on the QOL of the participants. Therefore, satisfaction with life, happiness, life's meaning, social norms, fulfillment of needs, and realization of life's potential are themes findings will be grouped in. Using this method allows the researcher to identify the aspects of health that are most influenced by training and further understand how the IQOL theory can be used to support university initiatives. A further analysis of those findings

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will reveal how the kempo club influences practitioners' physical, mental, emotional, and social health, as well as their ability to self-regulate. A discussion will follow in order to better understand how students are influenced by TMA practice, as well as how higher education institutions can use the information to help students improve their QOL.

Research Question

The current study aims to answer the overarching question, "How do martial arts influence the quality of life (QOL) of college students?" Demographic and semi-structured interview questions are listed in Appendix A and B. Together, they aim to identify how martial arts training influences the overall QOL of college student-practitioners. By examining QOL during the different stages of training (before, during, and after), it is possible to identify how the time training influences the QOL of student-practitioners.

Data Collection

In their discussion of data collection and analysis in qualitative research, Crowe et al. (2011) discuss the use of interviews, document, and artifacts in a case study. The first, interviews, are attained through direct communication and interaction. This form of data uses participants' descriptions and responses to inform a study. Next, documents are data collected from pre-existing documents and materials that inform researchers of and provide familiarity with the case being studied. The last, artifacts, are data presented in the form of images, audio, and video sources. Artifacts can also be described as materials that can evoke an emotional response from participants (Crowe et al., 2011).

In this case study, the researcher corresponded with respondents via email and conducted two semi-structured interviews via Zoom and FaceTime. In addition, the researcher reviewed online materials associated with the TMA club. Documents in this case include university-

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related materials about the club as well as other web sources related to the club. To collect artifacts, participants were asked to submit an image that represents their martial arts training and/or experience via email and text message. Notes were also taken throughout data collection in order to make sense of the data, support intensive reflection, and classify the information (Creswell & Poth, 2018).

Data Analysis

In the current study, interviews, documents and artifacts were examined with the intent to understand how TMA participation influences the QOL of participants, as described by the IQOL theory. Content analysis was used to examine the gathered data which facilitated in the identification of themes. Content analysis involves using predetermined themes from an existing theory to analyze and categorize data (Hsieh & Shannon, 2005). By identifying themes, researchers can organize and describe outcomes with rich detail (Creswell & Poth, 2018).

During the initial coding stage, the researcher evaluated the data without computer software. At this point, notes were taken by hand to identify key findings. Transcriptions were then completed using Temi, an online transcription service. After examining the data without software, the transcriptions, artifacts, and documents were uploaded to Dedoose for the next stage of analysis. Using Dedoose, the researcher highlighted notable aspects of the data and took notes to further make sense of the content. Categories were then formed from key words and patterns that emerged throughout. Thus, physical health, mental health, emotional health, social health, self-improvement, and self-defense were identified as the initial groups. After a thorough examination of those categories, the researcher analyzed how they aligned with the themes set by the IQOL theory.

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Content analysis allowed the researcher to explore how elements of the previously stated categories fit within the IQOL theory. Themes were therefore identified as satisfaction with life, happiness, life's meaning (subjective QOL), social norms, fulfillment, and realization of life's potential (objective QOL; Ventegodt et al, 2013). Again, key words, phrases, and patterns were used to make sense of and place the data within the appropriate themes. Member checking was also used during the process to verify information and ensure accurate interpretation of the data. Appendix C and D illustrate the coding and data analysis process while findings are described in Chapter Five.

According to Hsieh and Shannon (2005), using various data sources and analyzing them through a theoretical lens should lead to a holistic understanding of the experiences of the participants. It is also necessary to identify the researcher's position on the topic to address any biases that may influence the research process (Creswell & Poth, 2018).

Reflexive Statement

According to Creswell and Poth (2018), qualitative researchers must "position" themselves in the research they are conducting. This reflexivity provides the opportunity for the researcher to understand how their experiences and philosophies may influence the study, including their pre-existing biases.

Introduction to the research. I began studying martial arts at the age of 22 as one of only two martial artists in my family. Although I did not have the opportunity to begin at a young age, I always knew I would eventually want to start training. To date, I have been a practitioner for eleven years and in that time my focus has been on traditional karate, specifically Okinawan Karate and weaponry. I have, however, also spent a limited amount of time practicing

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Shotokan Karate, Aikido, and Mugai Ryu. Studying these different and often conflicting styles has given me a range of perspectives on martial arts philosophies and methods of execution.

All my martial arts teachers are military, corrections, law enforcement veterans, or at some point pursued a career in the military or law enforcement. My training reflects the styles they teach, but also the philosophies of those individuals. They all study and train for practical purposes, therefore I study and train for practical reasons well. As found by research, reasons include self-defense and overall health benefits (Burke et al., 2007).

Much of my martial arts experience comes in the form of physical practice. However, a significant portion of it has also been through reading martial arts books, magazines, and studying film materials. Reflecting on the different forms of study, I have come to find that reading and watching martial arts educational videos help to provide situational context to the physical training.

I spent a lot of time reading and studying martial arts-related material prior to dissertation research which gave me a valuable amount of information on the topic before I began my dissertation. The issue, though, is that the materials I used are not empirical and are therefore not useful in my dissertation research. I have now researched over a hundred research articles on martial arts and QOL-related topics. This has added to my depth of knowledge on martial arts and has given me a sense of security in knowing that my martial arts journey is a lifelong endeavor. As my physical abilities and professional responsibilities change, I may not always be able to train as I once did. Therefore, my focus has moved from being solely a practitioner to becoming a research practitioner of the arts. Whether I am learning or teaching others, I can always be an active participant in the martial arts community. In order to successfully do so, however, I must identify some of my biases that may influence the study (Merriam, 2002).

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Biases

Merriam (2002) explains that the identification of potential biases can help the research identify potential sources of error that may occur as a result of those biases. One bias I recognize is the idea that my teachers are better or more experienced than others. While I am confident in their knowledge, it is presumptuous to stand on such a ground as there are (assumedly) other teachers who have as much knowledge as them or are knowledgeable in certain areas. Next is the belief that the systems I study are the best or most complete styles. Similarly, I have operated with the bias that TMA are more effective than non-traditional styles. My experiences have led me to believe that these are common biases, but it is fair to say that I have held them at some point or another. It would be careless to form any of these assumptions as I would not know without studying all the different styles that exist. It is important to recognize these biases in order to ensure that I, the researcher, do not negatively influence the data collection and analysis.

Risks and Safeguards

Crowe et al. (2011) went on to discuss the responsibility of the researcher to consider the risks and ethical implications associated with a case study. Prior to the interviews, participants were informed of the risks associated with the study and asked to sign a consent form to verify that they understand those risks. Opportunities were also provided both before and after the interviews to share any questions or concerns they have. Where possible, interviews were recorded on a personal device which only the researcher has access to, and additional documents were stored in a secure location. To support those efforts, validity and reliability methods were used throughout the process.

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Trustworthiness

Merriam (2002) discussed the need for a study to be trustworthy. The four criteria for trustworthiness are credibility, transferability, dependability, and confirmability. Merriam's discussion also went on to identify triangulation as a method researchers can use to ensure that findings are valid and reliable. This involves assessing multiple data sources to ensure accurate interpretation of the data being examined (Merriam, 2002). In this study, interviews, documents, and artifacts were used to find outcomes related to the case being studied. Participants were also contacted after the study to debrief and ask clarifying questions about the interpretation of the data, and peer review is used throughout all stages of the study. Thick descriptions by participants were used to elucidate themes. Research methods and drafts were reviewed by both committee members and colleagues throughout the study to ensure that research findings are trustworthy. Moreover, journaling and memoing were used throughout the data collection and analysis, and was supplemented by questions and thoughts about the notes as the study progressed. By reflecting on the journals and memos, the researcher can ensure consistency in the results (Merriam, 2002).

It should also be mentioned that this study was briefly interrupted by COVID-19 pandemic as local, state, and national governments went into simultaneous lockdown. As a result, modifications were made to ensure the safety of the researcher and participants. All interviews were conducted virtually and correspondence completed electronically.

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Chapter Four: Findings

Reviewing existing literature and research on the quality of life (QOL) of students reveals that attending college can lead to several health-related issues. According to Beiter et al. (2014), many students go to college with pressure from family with expectations to perform well. Unfortunately, this can lead to an increased level of anxiety. Additionally, Caldwell et al. (2010) revealed that while there are many benefits to attending, college students report dealing with anxiety, insomnia, headaches, common colds, and lower satisfaction with life. This is an important topic because not only can academic performance suffer as a result of a low QOL (Beiter et al., 2014), it can also lead to drug and alcohol abuse in an effort to cope (Garrett, Liu & Young 2017).

Higher education institutions should pay attention to these issues in order to identify how to help students improve their QOL. The current study aims to address the issue by asking how martial arts participation influences the QOL of students. A review of the literature found that while martial arts practice can have a positive impact on student outcomes (Burke et al., 2007), traditional martial arts (TMA) clubs, extracurricular, and recreational programs may be more appropriate for students who are at risk of having a low QOL (Gallant, 2016). By assessing student-practitioners as a single case, this study provides a further understanding of how outcomes at the club can inform TMA initiatives in higher education.

Research Setting

The current study takes place at a large, research institution in the southern midwest. It is located in a metropolitan city and serves as the largest university in the immediate area. In 2019, it reported a student body of over 20,000 (53% female, 47% male). Seventy-one percent of students are in an undergraduate degree programs, 26% are graduate students, and 4% are post-

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doctoral. Nearly 70% identify as White, 11% identify as African American, and 20% identify with other racial/ethnic groups. The university website goes on to describe institutional goals to provide educational opportunities to undergraduate, graduate, and professional students in a diverse and inclusive learning environment. Furthermore, the university's mission statement identifies QOL improvement through service and outreach as an institutional objective which supports their selection for this study's participation.

The club selected for this case study is a kempo karate club at the described institution. As discussed in the previous chapter, the club is part of a six-member organization. The one included in this study functions to serve as a university club and recreation program. According to the instructor, an average of three to five members would attend sessions during the COVID pandemic. In order to further understand the club, a thorough examination of their website was conducted which revealed that they are a Christian-affiliated traditional martial arts (TMA) system.

The organization describes itself as welcoming to all faiths, and is a group participants can join to improve their *physical, spiritual, and mental health*. Furthermore, it self-describes the club as a place students can learn self-defense while learning and understanding violence prevention skills. The description of the TMA club also went on to describe the system as being composed of several martial arts styles, including tai chi, aikijutsu, and jujutsu which are described in Chapter Two. The organization's lineage, according to the website's history section, can be traced back over 50 years and combines aspects of Chinese, Japanese, and Okinawan TMA philosophy to form its own. According to the instructor, kempo means "fist law or way of the fist." He also added that "the kempo style that we practice... means spiritual, gentle-handed family" (personal communication, February 9, 2021). Understanding the context

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of the club allows the opportunity for researchers to better understand the respondents' experiences.

Participants

To protect the privacy of the participants, pseudonyms are used and they are identified as Steve and Sara. Sara identifies as a White female in her early twenties. She is a senior at the university and has been studying martial arts for between one-and-a-half and two years. She is a third degree brown belt in kempo and describes kempo karate and tai chi as the only martial arts styles she has studied. Though she did not provide extensive details, Sara disclosed being on the autism spectrum and having scoliosis.

Steve identifies as a Middle Eastern and White male in his early thirties. He is a PhD student at the university and has studied martial arts for a total of four years, though not consecutively. He is a white belt in kempo and reported being in the kempo karate club for less than a year. Although he did not identify any health limitations, he admitted that his English limited his ability to respond to certain questions. It should be mentioned, however, that neither participant discussed religion as part of their personal beliefs or foundational traditions. After analyzing the data, the experiences of the respondents are analyzed and understood using the IQOL theory as the theoretical framework.

Traditional Martial Arts Participation and QOL as Deconstructed by the IQOL Theory

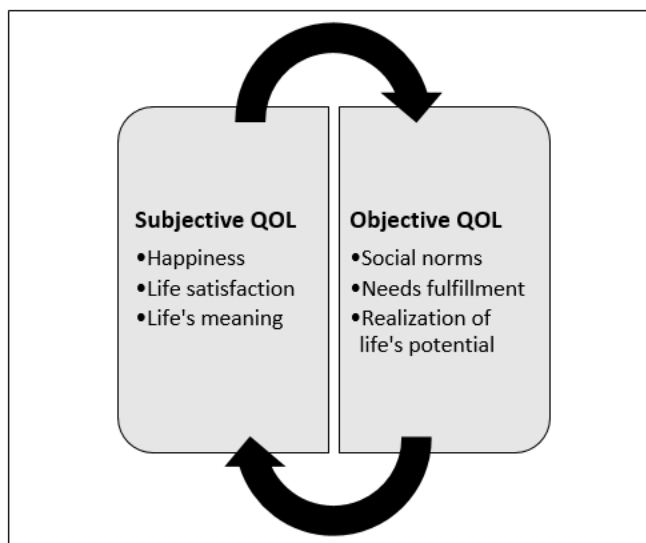
The following discussion describes how enrollment in a kempo karate club influenced the objective and subjective QOL of two participants. Objective QOL factors describe how club participation influences students' satisfaction with life, happiness, and life's meaning. In contrast, factors for subjective QOL describe how social norms, needs fulfilment, and realization of life's potential are effected by kempo club participation. Together, participants describe

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kempo karate in ways that suggest that it has a positive outcome on their physical, mental, emotional, and social well-being. A further understanding of this can be seen in Figure 4.1 below and is expounded upon in the following sections.

Figure 4.1.

Presentation of Findings



Note: Themes adapted from “Quality of Life Theory I. The IQOL Theory: An Integrative Theory of the Global Quality of Life Concept,” by S. Ventegodt, J. Merrick, and J. Andersen, 2003, *The Scientific World Journal*, 3, p. 1032. Copyright 2003 by the Scientific World Journal.

Subjective QOL

Satisfaction with life through kempo club participation. Both participants discussed kempo club participation as having a positive influence on their feelings towards their life circumstances. When discussing school and work, they spoke about how their kempo club affects their performance. Steve explained:

You empty your energy and you go there and go kick something. There was some pads, you kick some pads, you do some movements, you empty yourself over there, and you have more energy when you go to back your normal life. (interview, June 2, 2020)

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Steve began participating in the kempo club at the start of his PhD program and discussed normal life within the context of his doctoral experience at the university. Figure 4.2 (right) is a picture of Steve in his karate uniform (gi) and belt. When describing the meanings he attaches to his gi, he said, “Martial arts are not just sports. They are a way of living. One can bring balance into his life by martial arts. Martial arts can connect the body and soul and blend them together into one whole” (personal communication, February 6, 2021).



Figure 4.2 – An image of Steve in his kempo uniform.

Sara said that after starting kempo, “I stopped worrying about what other people thought of me... My teachers would help by telling me it’s fine. If you learned one thing, it’s okay” (interview, May 21, 2020). She also mentioned feeling “at ease” in other aspects of her life and seemed to connect her kempo participation to her college experience and the access that the university provides. She described a commitment to the group and wondered if she could continue training after she graduates. This was a concern for her in terms of losing benefits that she gains through the university and kempo club. Each described kempo karate as improving their life vitality, and thus, making them happier in their everyday lives as discussed below.

Happiness through kempo club participation. Each of the participants described kempo karate as an activity that adds to their happiness. Sara described the kempo club as a warm, family setting where they tell silly stories to each other which enhances her feelings of happiness. Furthermore, she said she feels “blah” before a training session, but described the release of dopamine and endorphins as a result of the training. This also improves her sense of happiness and seemingly coincides with her desire to train in a positive environment. This was described by what Sara looked for when choosing a martial arts style and program to join. She said, “I don’t like competition... If someone appreciates the art and wants to learn, I recommend

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it. If they want to fight, I don't." She also stated that "I have scoliosis and warm-up stretches help correct my back" (interview, May 21, 2020). Together, these aspects of kempo karate add to her ability to be happy in life. Similarly, Steve described the following:

As I'm progressing in karate, I'm becoming more fond of karate... I think many people know about martial arts by movies. And I love doing martial arts. Some part of it is self-defense and knowing how to defend yourself and other than that, I think I love doing some movements that they do in martial arts. (interview, June 2, 2020)

His description of the movies in popular culture seemed to contribute to an aspect of life that makes him happy. He became familiar with them at a young age and made him interested in pursuing martial arts.

Both participants' responses are also reflected by the club's webpage description which specifies a mission to teach the "ancient" methods of training which, according to the document, have been lost due to competitive practices. This indicates an intentional effort by the instructor(s) to maintain a non-competitive environment that can add to the students' happiness. The organization provides a community-like setting and employs practices that lead to positive physiological responses, such as that described by Sara.

Life's meaning through kempo club participation. Although physical health and self-defense skills were reasons they began studying martial arts, participants also described deeper connections to the kempo system. Steve described how the philosophy of the kempo class appealed to him:

It is a traditional sport and has some basic principles. I like the class that there are some organized movements... I don't have any specific goals. I just want to continue it and go

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forward. One specific goal for me is that I don't quit martial arts and continue doing this.

(interview, June 2, 2020)

When asked to describe the overall effect martial arts has had on her life, Sara said she could describe it in three words: “Balance, persistence, and stress relief... The only difference between martial arts and dancing is intent” (interview, May 21, 2020). She did not cite any specific goals of training but said that she intended to find a new martial arts group once her academic enrollment and club eligibility ended. This was a point of conflict for her as she was unaware of a suitable organization to join, as well as how she would be able to pay the fees that may be associated.

Participant experiences may be driven by the spiritual components of the kempo club’s curriculum. According to the website, spiritual development is one of the principles of the club and describes the central philosophy as one that is inspired by God. It describes their practices as “universal in nature but founded upon Christian ideas.” Furthermore, the webpage defines one of its values in terms of “harmony,” adding a true kempo practitioner seeks to avoid conflict and remain gentle. Neither participant described religion as part of their personal foundations, but they seem to gain a sense of life’s meaning as a result of this organization’s identity, mission, and focus.

Objective QOL

Social norms in kempo club. Participants described the kempo club as a place where discipline and peer engagement are fostered. Sara described the kempo club as a place she could go for both. “There is a switch that flips... we bow on and we bow off” (interview, May 21, 2020). She described that when she bows on she is able to focus on the training session. After

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bowing off, however, she indicated that she could relax and socialize with her peers before leaving. This is supported by the instructor, who said “the kanji [logo] (Figure 4.3) is a symbol of unity, or coming together to be greater than the individual parts” (personal communication, February 9, 2021).

Steve also spoke about how he looks forward to the kempo club as an opportunity to see his classmates and instructors:

I don't go to any other extracurricular classes. When I have to do something that gives me more discipline and I have somewhere to go, some club. Of course there's this quiet time. This is the only class that I have on zoom and every week I see other students and the masters. And, yes, of course it gives me very much incentive, being very interested to learn new techniques. And new techniques they teach me every week. It makes me more interested in martial arts. (interview, June 2, 2020)

Whether they met in person or remotely, they described looking forward to the opportunity to learn something new as well as engage with the other group members. Overall, it seems to support their social well-being while fulfilling needs in other areas of their lives as college students.

Fulfillment of needs through kempo club participation. The instructor describes the kempo club as a Christian organization which is symbolized by the cross on their organizational patch or logo (Figure 4.3). This is a notable point as it seems to drive their overall mission. In support of that, Sara described that she initially joined the kempo club to “become stronger physically, mentally, and emotionally” (interview, May 21, 2020). She described an awareness of feeling vulnerable at times and that she did not feel confident in her ability to defend herself,



Figure 4.3 – An image that symbolizes the kempo organization included in this study.

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one specific example being her concerns about walking through campus at night. As a result of the class, she feels better about her ability to walk home alone, thrive in different circumstances such as the workplace, and meet her academic needs as a college student. “This really helped my emotional state” (interview, May 21, 2020), she said. Similarly, Steve stated:

I think I'm more determined after going to class and now I'm more interested in working out, going to gym. I went to kempo class because I think besides going to a martial arts class, people need to go to gym and work out. And also, you know, in doing other things, you become more determined in your personal life too. (interview, June 2, 2020)

Although Sara spoke specifically about her emotional state being improved, both participants seemed to feel happier and more confident about themselves after practicing kempo. A part of that, it seems, gives them confidence in their ability to achieve their goals during college and in their endeavors post-graduation.

Realization of life's potential through kempo club participation. One aspect of training that seemed significant was the participants' recognition of their growth and progression since they started. This seemed to shape their confidence in their abilities to accomplish their goals. Sara said that she “definitely gained some confidence” as a result of her kempo training. She described that she had gone from being able to do zero pushups, to being able to do twenty in the one-and-a-half to two years since she began. “White belt techniques seem second nature now” (interview, May 21, 2020), she said.

Although Steve did not describe his individual achievements in terms of strength gained, he described the next steps in his training:

I did some martial arts before, when I was in high school and in the middle school. But each time I went to the class for a small period, like six months or three months, and then

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didn't continue it. And this time I started my PhD here last August and from that time, I'm going to the kempo class in university... I'm a white belt, but before the pandemic started I wanted to have my yellow [belt] tests, but the pandemic started, and I didn't go to class anymore. (interview, June 2, 2020)

Sara and Steve each seem confident that they can continue to progress in kempo. One aspect of this also stems from their desire to continue learning and developing in the style. In addition, they seem to recognize karate as a practice that can help them accomplish their goals outside of the university's club. While they both described their experiences differently, they seemed to have similar, positive feelings about the purpose kempo serves in their lives as college students and how it will help them in the future.

Summary of Chapter Four

The participants' experiences provide examples of how a kempo karate club can influence students' QOL during college. In this case, kempo karate is the mechanism used to improve their health and well-being. Both Sara and Steve consistently describe positive outcomes related to the subjective and objective areas of their lives. Subjective QOL outcomes (satisfaction with life, happiness, and life meaning; Ventegodt et al., 2013) are highlighted by participant descriptions of how kempo improved their ability to self-regulate and accomplish day-to-day tasks which, in turn, improves their happiness and satisfaction with life. Conversely, their objective QOL outcomes (social norms, fulfillment of needs, and realization of life's potential; Ventegodt et al., 2013) are described by their ability to thrive in the kempo class and their confidence to perform well in other current as well as future life endeavors.

Previous studies on TMA also revealed that regular practice can reduce aggression (Martinkova & Parry, 2016). An example of this was shown by Sara's response in stating that

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she would not recommend the kempo club to someone who wants to fight. She described the club as a place to learn and self-improve, not to fight or compete with others. Steve discussed hitting pads in class, but his response seemed to describe it as a workout as opposed to an act of aggression. Evidence of this can be further seen in the organization's identity which is based on Christian beliefs and principles. Though neither participant discuss religion, the club's Christian identity may be evidence of student outcomes and may be worth investigating. It should also be noted that neither participant revealed any injuries as a result of their training which could further validate the organization's mission to improve the QOL of practitioners. Consistent with research on TMA styles, the kempo karate club shows an overall positive effect on the physical, mental, emotional, and social QOL of the participants. These findings are described in greater detail in Chapter Five.

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Chapter Five: Discussion

Chapter One began with a discussion of the stressors associated with college attendance. Research has indicated health risks including anxiety and depression (Beiter et al., 2014), insomnia, headaches, and other health problems that occur as a result of attending college (Caldwell et al., 2010). These issues may be either caused or compounded by concerns related to academic performance, housing, and social adaptation (Caldwell et al., 2010). Overall, their quality of life (QOL) may decline along with their overall satisfaction with life.

Research Findings

A preliminary review of the literature revealed that while martial arts can be a mechanism to influence students' QOL, traditional martial arts (TMA) are more consistently associated with positive outcomes. Therefore, this study investigated the experiences of a university kempo karate club located in the southern midwest. The case study attempts to address the aforementioned problems by asking, "How does martial arts participation influence the QOL of college students?" Consistent with existing research on TMA practice and extracurricular activities, both participants described their club enrollment as having a positive impact on their overall life quality.

Health Benefits of Traditional Martial Arts Participation

Physical benefits of kempo club participation. Regular physical activity has been shown to have a direct influence on the ability to stay healthy (Zetaruk et al., 2005). As the foundational component of traditional karate, it is suitable to consider kempo as a form of exercise (Sandford & Gill, 2018). In this study, both participants described improvements to their physical health as a result of participating in kempo class. Steve spoke directly about his desire to stay physically active as a reason for participating. Similarly, Sara spoke about the

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physical strength she had gained since she started the program. On the most basic level, kempo seems to provide an opportunity to exercise and stay fit, though the practice can be supplemented by going to the gym as Steve mentioned. It not only allows them to set goals to become stronger, but also allows them to move up in rank while being recognized for their accomplishments by peers and instructors.

Steve had practiced martial arts for a total of three years prior to his enrollment in the kempo club described in this study. During that time, he studied kickboxing which he described as “very rough.” He did not state a dislike for kickboxing, but he articulated that he likes the traditional and structural aspects of kempo karate. Sara did not have martial arts experience prior to the kempo class. However, she explicitly stated that she does not like competition which, similar to Steve, may have attracted her to the class. One benefit of TMA is that practitioners can be physically active and study self-defense without being in a competitive environment (Sanford & Gill, 2018). Students also reported an improvement to their mental health.

Mental benefits of kempo club participation. Consistent with previous research outcomes on TMA, kempo club is a safe and supportive environment that engages practitioners physically while simultaneously improving their mental health (Burke et al., 2007). While Steve mentioned an overall improvement in his life, Sara spoke specifically about her ability to be more mentally prepared for school and work. The practice of bowing on before class and bowing off after may be a practice that she applies those areas other of her life. She did not go into detail about how they affect her day-to-day, but she mentioned that kempo improves her ability to cope with her autism and scoliosis related issues. Rao (2008) found that martial arts classes can be inclusive to nontraditional and underrepresented populations. The next topic discusses how the emotional health of the participants was influenced by kempo training.

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Emotional benefits of kempo club participation. Emotional needs are a critical aspect of being and feeling healthy (Martinkova & Parry, 2016). Both participants described their kempo training in terms of long-term improvement. Although she mentioned physical and mental benefits as a reason for choosing the kempo club, Sara described much of her well-being within the context of emotional stability. She described outcomes in terms of feeling calmer and having reduced stress levels. Similarly, Steve spoke in terms of being able to “empty” himself in order to feel rejuvenated and achieve a sense of “balance” in his life. This improvement to their emotional state can translate directly to improvements in their ongoing school and work performance (Sandford & Gill, 2018). However, this can also have significant implications in terms of their career success after college (Foubert & Grainger, 2006). Each of them described going to class as a positive emotional experience, but kempo club participation also revealed social benefits.

Social benefits of kempo club participation. Belonging and social acceptance are two factors that stem from club, extracurricular, and recreation (CER) activity participation (Vail, 2014). As mentioned earlier in this section, martial arts clubs can be adapted to accommodate traditional students as well as those with health conditions and physical limitations (Rao, 2018). Prior to the pandemic, the club met and trained in-person at the campus recreation center. However, classes were only offered via Zoom during the COVID-19 pandemic lockdown. Steve said that it was the only class he took during quarantine, and that he looked forward to meeting every week to see his teachers and classmates.

Alternatively, Sara discussed in-person classes prior to the lockdown as a place she could connect socially. While class time was dedicated to training, the group would chat before and after class. She said it took a while, but eventually became a “chatterbox.” This could be

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explained by the positive relationship she has with her teachers and classmates. Although she was one of the only females in the class, she described feeling very comfortable in the environment. The instructor also indicated that the club is a place where students can be part of a “collective” group which may further explain their social connections with the organization. Both participants’ experiences exemplify a different social outcome, but they each tie their experiences to positive feelings which indicates the need for them to feel a sense of belonging. There is also enough evidence to suggest that kempo karate practice can improve students’ ability to self-regulate.

Self-regulation benefits of kempo club participation. The ability to self-regulate can influence a person’s ability to show self-control, moral judgement, decision-making, and critical thinking (Sandford & Gill, 2018). Both participants’ responses point to a connection between kempo and the meanings they place on their lives. For example, they both spoke about their belt ranks and the work they did to attain them. Not only do the belts signify their class rank, they also seem to symbolize the commitments they had already made to kempo (Sandford & Gill, 2018). Figure 4.2 shows a picture of Steve in his uniform and belt which symbolizes karate’s influence on his ability to cope with life’s needs. Furthermore, Steve and Sara spoke about their desire to keep practicing kempo karate long-term. Outside of meeting their next rank requirements, neither participant described any specific goals. Instead, they discussed their desire to keep practicing long-term. They both acknowledged that in order to do so, they must continue to attend class and train consistently. Both students seem to find confidence in the training they have completed, but also seem to find comfort in the fact that they can continue training in later stages of their lives.

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Another example of self-regulation can be found in the low number of injuries amongst TMA practitioners (Gallant, 2016) and the kempo class described in this study. Sara described that there had been no injuries during her time practicing kempo at the university. It is possible that the self-control attained through training also improves muscular control which may lower the rate of injuries (Sandford & Gill, 2018). This potentially contributes to the physical health benefits described by practitioners and the ability to practice long-term. Understanding these outcomes allows researchers to investigate the theoretical implications as a result of the study.

While both participants described physical, mental, emotional, and social benefits, as well as an improved ability to self-regulate, it is important to mention that the included club identifies health improvement as a primary goal of the organization. They specifically describe physical, mental, emotional health, and self-defense as key aspects of their mission. Furthermore, additional communication with the instructor revealed that their goal is to also allow students to be part of a collective group that can “come together” and encourage a sense of “unity” amongst each other. While the discussed outcomes are consistent with previous studies on TMA, it is possible that the organization’s stated mission has a significant influence on the experiences of its practitioners relative to those of similar organizations. Investigating these phenomena could also create the opportunity to discuss theoretical implications.

Theoretical Implications of the Current Study

This case study builds on previous research conducted by Ventegodt et al. (2003) on the topic of QOL. The Integrative Quality of Life (IQOL) theory identifies areas that influence peoples’ QOL around the world (Ventegodt et al., 2003), thus making it an instrument that can be applied universally. The current research study uses the concepts presented in order to better serve higher education institutions and the students they serve. If students’ needs can be met

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during college, they may have a better chance to be healthy during as well as after their experience is complete.

Within the construct of the IQOL theory is the idea that peoples' lives are based on their subjective and objective QOL. Their study investigated several theories related to QOL in order to establish a more encompassing theory (Ventegodt et al., 2003). While they identified the categories that influence QOL, they did not identify any mechanisms that can be used to improve individuals' health. This builds on that research by assessing a mechanism that may improve students' QOL while they are in college.

Understanding the risks associated with college such as anxiety and depression (Beiter et al., 2014) would allow colleges and universities to make more informed decisions when designing programs and recreational opportunities. Furthermore, by assessing outcomes with the IQOL theory, institutions can develop a standardized measure of how students are influenced by martial arts programs. As discussed in Chapter Two, achieving positive results means designing programs that influence self-regulation skills (Baumeister et al., 2013), as well as physical (Sanford & Gill, 2018), mental (Burke et al., 2007), emotional, and social health (Sandford & Gill).

Implications for Future Research

Colleges and universities can use these findings to build on future research in order to understand how martial arts can benefit students. A multi-case study can be conducted to further understand the outcomes associated with different styles of martial arts. Findings will enable researchers to compare the outcomes of different programs based on individual styles and practices. In addition, a longitudinal case study can be conducted to understand the experiences of TMA students over time. This can allow researchers to evaluate students at specific points of

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their academic experiences, over the duration of their time in college. By conducting follow-up studies, higher education institutions will have a better understanding of the outcomes associated with martial arts training during college.

It is also notable that this dissertation supports existing research with findings that are consistent with studies that found positive outcomes related to TMA recreation in college. Specifically, it can be used to support future research on the styles university clubs can use to improve student QOL. As seen in the literature, competitive martial artists report a higher rate of injury and incidents of aggression than traditional martial artists which suggests that TMA such as tai chi, aikido, and other forms of traditional karate may be suitable options for practice (Zetaruk et al., 2005). Further information on the topic will provide additional findings that inform colleges and universities of the appropriate martial arts styles for college campus settings.

Moreover, this study provides insight into how TMA CERs can be used to improve the well-being of students who have autism and/or scoliosis. Future studies could therefore investigate TMA clubs for students with those conditions. For example, a longitudinal study using the IQOL theory as the theoretical framework could be conducted to find how martial arts training influences the QOL of students with autism, scoliosis, and other physical disabilities. According to Rao (2008), traditional martial arts classes can be modified to fit the needs of students with physical disabilities.

Other follow-up studies could be used to understand the gendered experiences of TMA students in college. Topics could aim to investigate the experiences and outcomes of females who participate in these clubs. Research questions could then address factors related to belonging and safety. To examine these topics, studies could be conducted with the aim to compare the experiences of male and female practitioners with one another. This could also lead

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to opportunities to understand the gendered experiences and outcomes of student-practitioners in different martial arts styles, clubs, and program designs.

This study investigated a TMA club with religious foundations which seem to have a positive impact on respondent outcomes. This particular institution is based on Christian beliefs. However, there may be others with different religious affiliations that could be examined. Future studies could thus compare this TMA organization's outcomes to others with different religious affiliations, as well as those with non-religious connections. These findings could lead to an understanding of the influence of religion on martial arts training.

Findings also indicate that TMA clubs could be beneficial for students during a pandemic and during normal times of operation. Research questions may then investigate how martial arts participation influences the QOL of college students during a global pandemic. After considering these topics, it may be necessary to investigate TMA in these various contexts in order to fully understand the outcomes related to participation.

Recommendations for Practice

As a result of similar studies, higher education institutions may consider ways to increase participation in kempo karate programs. To start, this means providing funding for kempo karate clubs and extracurricular programs where they are not already present. On the most basic level, this means allocating funds for instructors. Institutions may also want to consider providing funds for training equipment and access to a gym for strength training and conditioning. Additionally, funding for awards and certificates may be necessary to reward and recognize student development, and could include a budget for belts, uniforms, and accessories when appropriate. Universities that are unable to accommodate group sessions can outsource

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programs to reputable organizations and training spaces in the area, as exemplified by the organization examined in this study.

Another way to increase martial arts club participation is to recommend them through student counselors and wellness centers. On-campus health experts could recommend kempo as a self-care strategy that students use to improve their overall health. Specifically, it can be recommended as a way to alleviate feelings of stress and anxiety that is frequently associated with college attendance (Beiter et al., 2014). Recommending this as a tool to improve QOL may also benefit students with drug and alcohol-related issues (Garett et al., 2017).

In addition to improved well-being, learning opportunities can be created for students enrolled in martial arts programs. Students could travel locally, regionally, and nationally to visit other colleges or affiliated organizations. Academic institutions could provide opportunities for students to study abroad with TMA as the core subject of study. The Nippon Sport Science University in Tokyo, Japan, for example, offers undergraduate and graduate programs related to the study of martial arts and other sports. Their programs include sport science, sport management, medical science, sport culture, and childhood special education (Nippon Sport Science University, 2021). Practitioners with an interest in sport management and other related academic programs could use knowledge gained to design and implement new programs, or help to expand existing ones. Additionally, a foreign language component could be embedded as part of the curriculum design where students can study and learn foreign language through martial studies. In the described example, students could study the Japanese language and culture as part of the learning exchange program. This could help institutions put programs in place that could support students at all times, including during shutdowns similar to that of the COVID-19

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pandemic. Additionally, follow-up studies may also allow researchers to address the limitations discussed in Chapter One.

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Appendix A

Demographic Survey Questions

Q1. Age

18-24 25-34 35-44 45-54 55-64 65+

Q2. What is the highest level of education you have completed?

0-1 year of college 2 years of college 3 or more years of college

Undergraduate degree Graduate degree

Q3. Which of the following best describes your racial or ethnic identity?

African-American/Black East Asian Hispanic/Latinx Middle Eastern

American Indian/Alaskan Pacific Islander South Asian Southeast Asian

White

Q4. Gender

Female Male Transgender

Q5. How many years have you studied martial arts?

0-1 year 1-3 years 4-6 years 7-9 years 10 years or more

Q6. What martial arts style(s) do you study?

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Appendix B

Semi-Structured Interview Questions

Q1. Why did you begin studying martial arts?

Probe: What factors led to your initial introduction to martial arts? What initially attracted you to martial arts?

Q2. Please describe your first experience in a martial arts class.

Probe: Please describe the setting. What memories are associated with that first experience?

Q3. How have the style(s) you have studied influenced your training?

Probe: What specific styles have you studied? How are the styles classified or categorized? How are they similar or different?

Probe: If you have only studied one, how has the progression through the curriculum influenced your experience?

Q4. Why did you choose the style(s)?

Probe: What factors led to you training in that style and/or dojo? What attracts you to those style?

Q5. Describe your QOL before, during, and immediately after a training session.

Probe: How do you feel physically, mentally, emotionally, and/or socially before, during, and after a training session?

Q6. What have been the short and long-term effects of your martial arts practice?

Probe: How has training influenced you personally?

Q7. How have martial arts influenced your academic and job performance?

Probe: How have your academic and job performance changed since you began training? How does one influence the other?

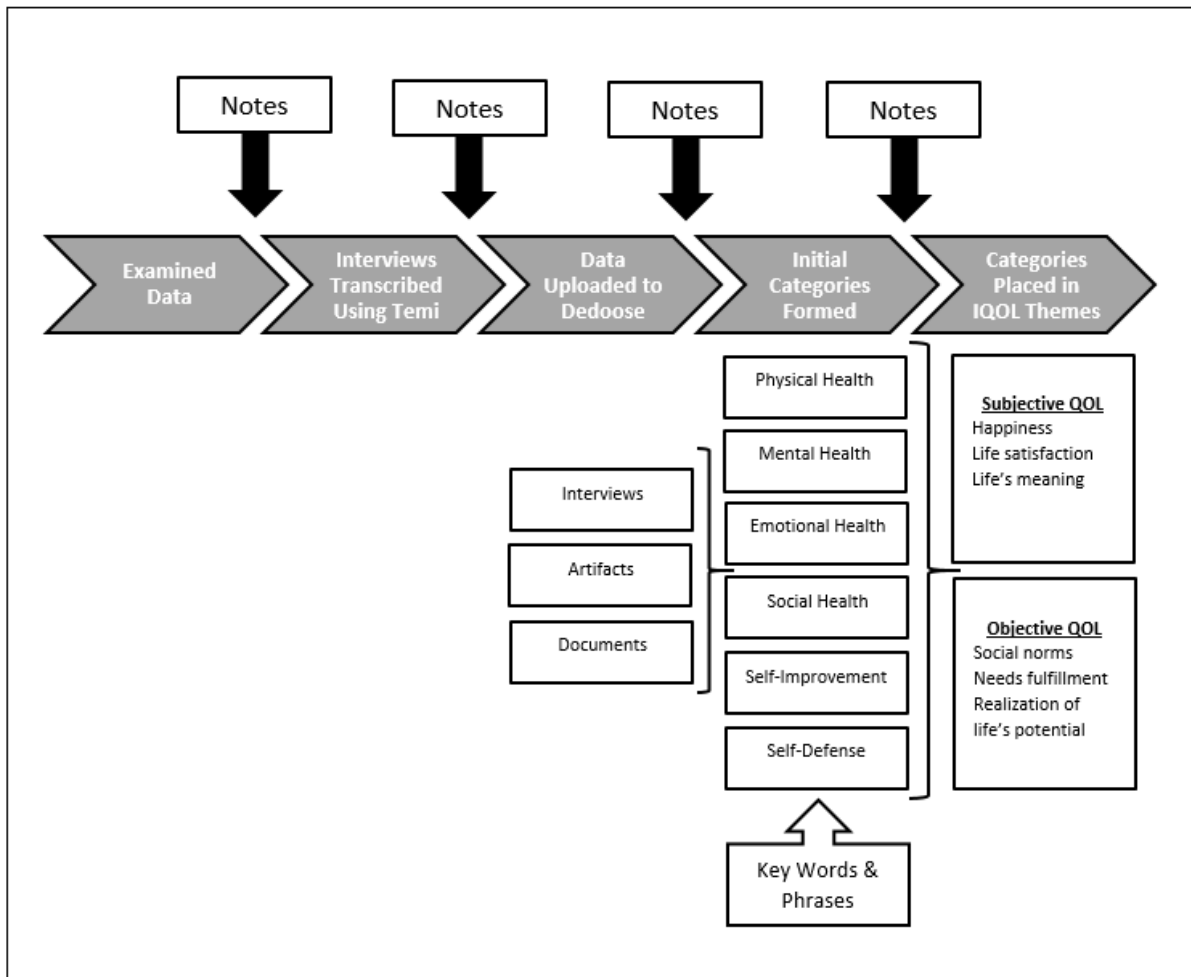
Q8. Please describe the overall effect martial arts has had on your life.

Probe: What are some of your goals in training, and will you continue in the long term?

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Appendix C

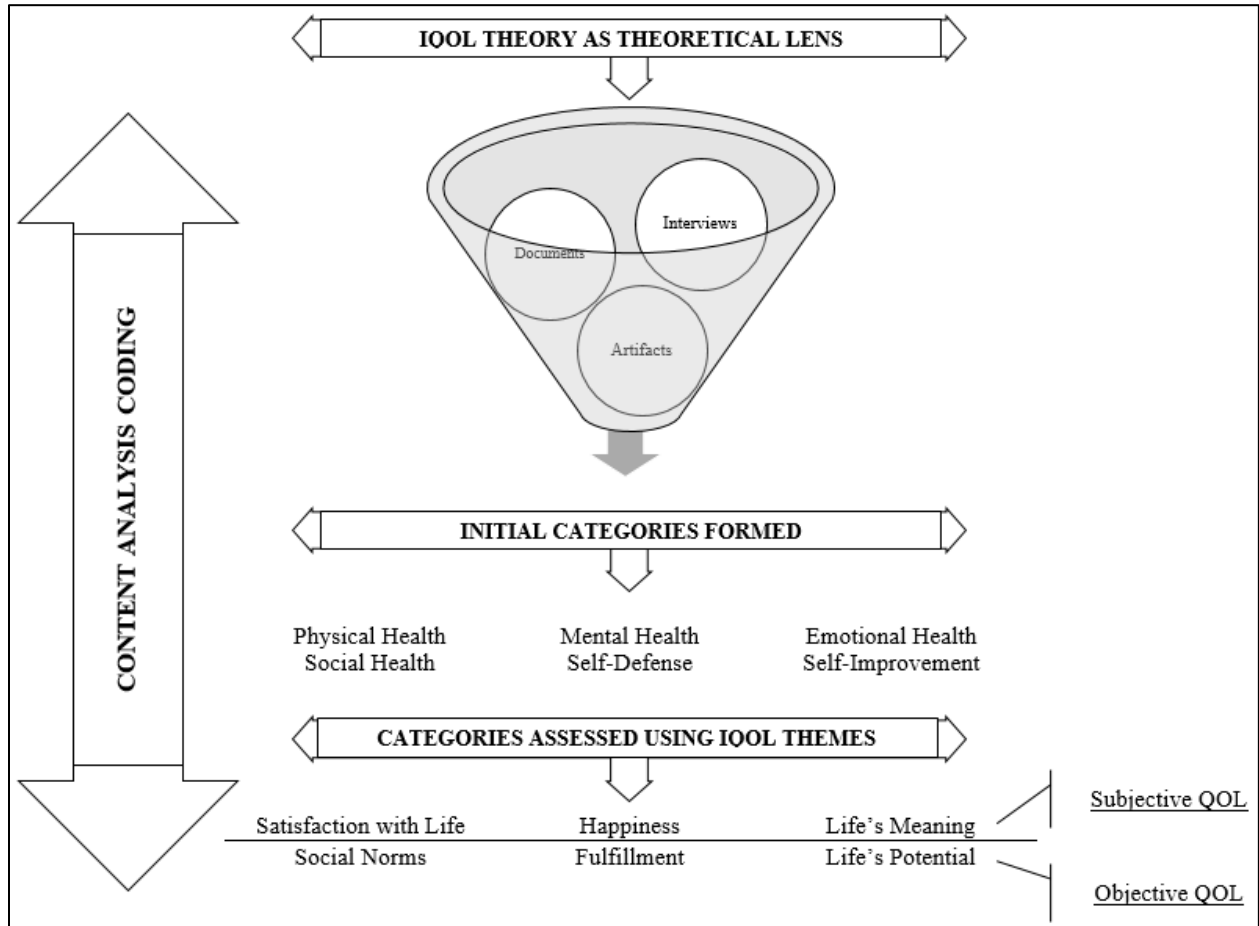
Coding Process



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Appendix D

Data Analysis Process



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