

FITNESS AND FITTING IN: AN EXPLORATORY STUDY
OF GENDER AND EXERCISE

BY

LYNN KATHERINE HERRMANN

DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Community Health
in the Graduate College of the
University of Illinois at Urbana-Champaign, 2012

Urbana, Illinois

Doctoral Committee:

Assistant Professor Idethia Shevon Harvey, Chair
Professor Reginald J. Alston, Director of Research
Associate Professor Kim C. Graber
Lecturer Stephen J. Notaro

Abstract

The purpose of the present study was to explore how gender and exercise related to each other using the Theory of Planned Behavior (TPB) as a framework. Using a multi-method design, female ($N = 308$) and male ($N = 131$) undergraduate and graduate students at a large Midwestern university completed a validated TPB and exercise survey. Interested undergraduate and graduate students then participated in focus groups with questions relating to the TPB constructs (i.e., attitude, subjective norms, and perceived control). Focus group participants ($N = 46$) were divided into four categories: females who participated in group exercise ($N = 16$), females who did not participate in group exercise ($N = 10$), males who participated in group exercise ($N = 9$), and males who did not participate in group exercise ($N = 11$).

Descriptive statistics, *t*-tests, and ANOVA tests were utilized for the quantitative analysis. Results included that the TPB constructs of subjective norms and perceived control were significantly different within females and within males for exercise and group exercise as well as between females and males for exercise and group exercise. The construct of attitude was not significantly different for females or males. With these quantitative results in mind, deductive content analysis was completed on focus group transcript data. Aside from the construct of attitude, qualitative results were comparable to the quantitative results. Qualitative results also provided a richer understanding of the quantitative findings. The findings of the present study were also consistent with the literature. It can be concluded from the present study that gender, in terms of subjective norms and perceived control, related to exercise preference and actual behavior.

Acknowledgements

Many thanks to my committee: Dr. Shevon Harvey, Dr. Reggie Alston, Dr. Kim Graber, and Dr. Steve Notaro.

Special thanks to Janet Kroencke for her excitement about my research and allowing me to utilize Campus Recreation as the site for my focus groups.

A tremendous thanks to my research assistants, Julia Balto, Hanna Olson, and Laurie Zadlo, who all helped me run the focus groups, organize focus group data, collect surveys data, and enter survey data. They helped make tedious work into fun!

Thanks to Mom and Dad, Rob, and Dan, and my friends, especially Margaret and Jorie, for their support throughout my Ph.D. I am grateful for their presence through the ups and downs and willingness to listen and provide feedback. Grazie mille to Fede! Ti sono grata per essermi stata vicino. It was so wonderful to have additional support from the Bassetti family in Italy!

Lastly, to my dogs Maggie, Wendy, and Ricky, who always helped me keep things in perspective and lighten the mood when needed, whether it be by barking at a delivery truck or sleeping peacefully at my feet.

Thank you!

Table of Contents

Chapter One: Introduction	1
Chapter Two: Literature Review.....	7
Chapter Three: Methodology.....	27
Chapter Four: Results.....	46
Chapter Five: Discussion.....	85
References.....	97
Appendix A: Demographic Sheet.....	107
Appendix B: Gender and Exercise Focus Group Questions.....	110
Appendix C: Survey.....	112

Chapter One: Introduction

Group exercise classes are commonplace at most gyms throughout the world. According to a survey conducted by the International Dance Exercise Association (IDEA), gyms and other exercise facilities offer an average of 38 cardiovascular and strength-based group exercise classes per week with an average of 16 participants per class. In terms of mind-body classes, facilities offer an average of eight yoga classes a week with 16 participants and ten Pilates classes a week with 12 participants (International Dance Exercise Association, 2010). The International Health, Racquet, and Sportsclub Association (IHRSA) 2009 Health Club Consumer Report found that 44% of health club consumers utilize group exercise classes, which equates to 21.2 million Americans (International Health, Racquet, and Sportsclub Association, 2009).

Despite the clear presence of group exercise classes in gyms, there is an obvious gender difference in group exercise classes in that participants are typically female (J. L. Kroencke, personal communication, March 16, 2011; Ransdell, Vener, & Sell, 2004; Simpson, et al., 2003; Fishwick & Hayes, 1989). A thorough review of the literature indicates that research has not yet examined *why* group exercise participants tend to be females. Additionally, the fitness industry does not collect data on the gender of participants due to not having the means to keep track of the expanse of this data (i.e., it would be impossible to collect data on all group fitness classes as group fitness classes occur not only in gyms, but private studios, churches, etc.). For the topic of gender and group exercise, the lack of research from the academy and lack of data from the industry lead to the purpose of the present study.

Purpose of Present Study

By not participating in group exercise, men are missing a potential means of exercise that is safe and effective, can motivate them, and can add variety to their workouts (Dolan, 2008;

Thompson, 2008). Using a multi-method design, the present study sought to understand differences in male and female exercise and group exercise behaviors. In determining reasons for the gender differences in group exercise classes, group exercise program staff can adjust their programs to provide more men with group exercise classes as an exercise option. If more men participate in group exercise, they will not only acquire the benefits of group exercise, but they will also experience the public health-related benefits of exercise. Public health benefits of exercise include reduced overweight and obesity rates, weight maintenance, heart health, stabilization of blood sugar, as well as fall prevention and improved functional ability (Centers for Disease Control and Prevention, 2010; Bauman, 2003).

Group exercise.

As defined by the American College of Sports Medicine (ACSM), *group exercise* is exercise completed by a group of individuals led by an instructor (Dolan, 2008). *Exercise* is defined as planned, structured, repetitive physical activity that is done to condition the body in a particular component of fitness (Centers for Disease Control and Prevention, 2010). Within the definition of exercise, *physical activity* and *fitness* are also defined by the Centers for Disease Control and Prevention (2010). *Physical activity* is any bodily movement that causes skeletal muscle contraction and increases energy expenditure. *Fitness* refers to one's ability to complete everyday activities and responds to situations with vigor (Centers for Disease Control and Prevention, 2010).

Group exercise instructors typically are educated in exercise science and/or hold a certification to lead group exercise classes (Brehm, 2003). Classes have a distinct purpose to fit participant goals, such as improving cardiorespiratory health, increasing muscular strength and endurance, or enhancing flexibility and balance (Kennedy-Armbruster & Yoke, 2009). Group

exercise classes include a warm up with dynamic stretches and low to moderate intensity exercise to increase the heart rate. This is followed by exercises that achieve the purpose of the class. Lastly, classes end with a cool down to decrease the heart rate and stretch the body (Kennedy-Armbruster & Yoke, 2009).

Group exercise benefits.

There are multiple benefits from engaging in group exercise. ACSM suggests that group exercise helps participants exercise in a safe and effective manner, adds variety to participants' workouts while keeping with participants' exercise goals, and keeps participants of all abilities motivated to exercise in a social environment (Dolan, 2008; Thompson, 2008). Participants say that group exercise helps them adhere to an exercise program because it is at a set day, time, and place (Brehm, 2003; Annesi, 2001). Furthermore, group exercise also allows participants to keep challenging their bodies via a variety of exercise class types that focus on cardiovascular health, muscle development, or the mind-body connection (i.e., cross training).

Another benefit of group exercise is that participants receive immediate feedback from the instructor on form and execution of an exercise that one does not get when exercising alone. This helps prevent injuries and encourages an effective workout (Brehm, 2003; Annesi, 2001). Group exercise also provides an opportunity for exercisers to socialize and create a sense of community as a group, which increases exercise adherence (Burke, et al., 2005). Even though group exercise has many benefits, some individuals prefer completing their workouts on their own time and on their own terms. Group exercise is not for everyone as exercise is a personal preference. However, the gender differences in group exercise participation call for further investigation.

Changes in group exercise.

The fitness industry has changed. The first aerobic dance classes of the late 1960s and 1970s have now morphed into a large variety of classes known as group exercise. Even with the lack of aerobic dance classes on gym schedules and outward de-feminization of group exercise into more gender-neutral classes, mostly females still participate in group exercise (Antrim, 2005; Riemer & Visio, 2003; Simpson, et al., 2003). To date, no empirical research exists on why men do not participate in group exercise as much as females. There were a few anecdotal articles on the subject in fitness industry magazines. For example, men said they did not like choreographed dancing as they claimed to lack coordination. Not being coordinated enough made them appear incompetent, especially in front of females (Freytag, 2008; Myers Smith, 2006).

Popular media supported these findings that men felt self-conscious, intimidated, and awkward in group exercise classes (Antrim, 2005; Horton, 2010). A consistent theme was that the word “aerobics” stirs up image of dancing females in leotards, which was very off-putting to men. Popular media, however, suggested that group exercise had changed since the 1960-1980s and men *should* try group exercise. Writers of these popular media articles, who were typically fitness professionals, suggested that group exercise is a challenging workout in which an instructor motivates participants. Men should try classes that have names like “boot camp,” “cycling,” “strength circuit,” yoga, and Pilates (Nathan-Gardner, 2010; Spiker 2003). Suggestions to instructors to get men in class included avoiding choreography, doing more sports and athletic-inspired exercises, not playing “top 40” music, and having a class name that is not effeminate (Freytag, 2008; Myers Smith, 2006). It has been anecdotally noted that men’s group exercise participation has increased from almost no attendance in the 1980s to some attendance

today; however, men's participation is still not equal to that of females' participation (Antrim, 2005).

Research Questions

With an understanding of gender in group exercise as well as the benefits relating to group exercise participation, the present study sought to understand the gender differences in exercise and group exercise behavior using the Theory of Planned Behavior (TPB) (Ajzen, 2010). The three constructs of the TPB include attitude about the behavior, subjective norms surrounding the behavior (which are based on social norms), and perceived control in accomplishing the behavior. These three constructs influence intention to complete a behavior. The following research questions relate to each of these constructs.

- Are there gender differences in *attitude* regarding exercise?
- Are there gender differences in *attitude* regarding group exercise?
- Are there gender differences in *subjective norms* regarding exercise?
- Are there gender differences in *subjective norms* regarding group exercise?
- Are there gender differences in *perceived control* regarding exercise?
- Are there gender differences in *perceived control* regarding group exercise?

Definitions of Theory of Planned Behavior Constructs

This study wanted to determine information about gender differences in exercise and group exercise using the TPB constructs of attitude, subjective norms, and perceived behavioral control. Thus, the following constructs of the TPB are defined below (Biddle & Mutrie, 2008).

- *Attitude* refers to beliefs about a behavior (e.g., will the behavior be beneficial or harmful and easy or difficult, etc.) and evaluation of outcomes (e.g., is the result from engaging in the behavior beneficial or harmful and aligns or does not align with personal goals).
- *Subjective norms* relate to how the beliefs of people who are meaningful to the individual influence the individual. *Subjective norms* also include the individual's motivation to abide by the beliefs of these meaningful people.
- *Perceived behavioral control* is defined by control variables and power over control variables. Control variables are perceived factors, both personal and environmental, that can facilitate or inhibit engaging in a behavior. Power over these control variables is the individual's perceived ability to overcome control variables.

All three of these constructs relate to intention to engage in a behavior, not actually engaging in the behavior. Further details on the TPB are in the Chapter 2: Literature Review subsection "The Theory of Planned Behavior and Exercise Behaviors."

Chapter Two: Literature Review

The purpose of this literature review was to provide a foundation of information relating to gender, exercise, and group exercise. This chapter began with a brief history of group exercise helps establish the historical and cultural contexts of group exercise. Next, past research concerning the importance of gender and exercise behaviors established why gender is the focus of this study. University students were the focus of this literature. Femininity and masculinity were also discussed in terms of exercise behaviors. Lastly, the Theory of Planned Behavior (TPB) was presented as the theoretical framework for this study in order to explore gender and exercise behaviors.

The History of Group Exercise

Definition of aerobic activity.

The development of group exercise related closely to research done by physician Kenneth Cooper, who encouraged healthy bodies through “aerobic” activity during the late 1960s. The word aerobic is Greek for “with air.” “Aerobic” activity refers to exercises that promote cardiovascular fitness by elevating the heart rate for an extended length of time, which increases the flow of oxygenated blood throughout the body (Aerobics, 2010). Aerobic exercise improves the body’s ability to work efficiently by strengthening the heart’s ability to pump blood throughout the body. This puts less stress on the heart muscle. Running and cycling are examples of aerobic activities.

1960-1970s.

Dr. Cooper's research led him to develop the United States Air Force aerobics program. At the same time, Jacki Sorensen, a life-long dancer, was asked to develop an exercise program for U.S. Air Force wives on closed circuit television (Kennedy-Armbruster & Yoke, 2009). Sorensen developed an aerobic exercise program that involved exercises that elevated the heart rate when put to music, which was called aerobic dance. At the same time, Judi Sheppard Missett, also a dancer, developed Jazzercise as another aerobic dance program. Within the years following Dr. Cooper's research, aerobic dance classes became popular as a means of intentional exercise in a time when intentional exercise was not a typical activity (Kennedy-Armbruster and Yoke, 2009).

1980s.

In the early 1980s, fitness associations, such as The Aerobics and Fitness Association of America (AFAA) and International Dance Exercise Association (IDEA), were developed to create an industry quality standard by certifying and educating aerobic dance instructors. Despite this effort to promote quality, knee, shin, and foot injuries became common among those who engaged in high impact (e.g., jumping) aerobic dance (Kennedy-Armbruster and Yoke, 2009). Thus, low-impact aerobic dance was developed, which promoted the aerobic benefits of high-impact aerobic dance without influx of the injuries.

1990s - present day.

In 1990, step aerobics was developed as a means to get a low or high-impact aerobic workout in a small space (i.e., the Reebok Step bench). The development of step aerobics was followed by a variety of classes such as boot camp, strength, cycling, and circuit classes as well as Pilates and yoga (Kennedy-Armbruster and Yoke, 2009). Since these new classes did not

involve dance moves, rhythm, or aerobic exercise, they were not considered aerobic dance. Instead, the term “group exercise” was commonly used, and still is today, to describe exercise performed in a group and led by an instructor (Kennedy-Armbruster & Yoke, 2009; Schroeder, 2008). Aerobic dance is now considered a dated term and is not commonly found on group exercise schedules. The variety of group exercise classes offered today focus on fitness components beyond cardiorespiratory health; flexibility, strength, balance, and reaction time can be improved via group exercise classes (Kennedy-Armbruster and Yoke, 2009). Group exercise classes are also considered open to both genders and people of all ages (Schroeder, 2008).

University Students and Exercise Behaviors

Health statistics on college students.

During college, students are creating behaviors that have the potential to become lifestyle behaviors (Huang, et al., 2003; Omar-Fauzee, Yusof, & Zizzi, 2009). As previously stated, there are a multitude of benefits from exercise, both immediate and long-term. Despite these benefits, research shows that 39.4% of college males and 28.8% of college females are overweight or obese (American College Health Association, 2009). Making matters worse, only 30.8% of college males think they are overweight where as 38% of females think they are overweight (American College Health Association, 2009). Thus, men do not correctly perceive themselves to be overweight. In a study on perceptions of health in 441 college students, 42.2% perceived their health as “good.” However, 29% of the college students who perceived their health as “good” were actually overweight and 19.4% were obese when body mass index was calculated based on self-reported height and weight (McLean-Meyinsse, Gager, & Cole, 2010). Not only is there the problem of overweight and obese among college students, there is also the problem of health misperceptions.

College students and physical activity.

Regarding physical activity and exercise, 22.4% of 18-34 year olds do not engage in exercise (Centers for Disease Control and Prevention in Huang, et al., 2003). Other research shows that 57% of college men and 61% of college females reported not engaging in moderate or vigorous intensity exercise in three of the past seven days (Buckworth & Nigg, 2004). According to the National College Health Assessment (2010), 44.1% of males and 41.9% of females met the Centers for Disease Control and Prevention guidelines for physical activity. Epstein and Roemmich (2001) found that college students choose sedentary behaviors (e.g., video games, television, computer activities) over active behaviors (e.g., exercise) unless the active behavior option is more convenient or in closer proximity than the sedentary behavior. Research suggests that typical weight gain during freshman year of college is 6.82 pounds, which can be attributed to buffet-style cafeteria food, free time activities that do not include physical activity, alcohol use, and consumption of nutritionally poor foods (Hoffman, Policastro, Quick, & Lee, 2006). These studies provide a picture of college students' health and exercise behaviors and how lifestyle influences them. Exercise behaviors are not specifically defined in these studies so it is unclear if these students engage in aerobic activities, muscular exercises, or other forms of exercise. It is also unclear if they engage in solo exercise or group exercise.

Graduate students and physical activity.

A few studies have focused on graduate students that cause similar concern to that of undergraduate students (Longfield, Romas, & Irwin, 2006; Price & James, 2006). Longfield, Romas, and Irwin (2006) examined how graduate student life influenced physical and social activities. They found that time limitations and having to prioritize graduate student work schedules were concerns of graduate students in terms of trying to fit in physical activity.

Inconvenience of the gym and the time it takes to be physically active (i.e., guilt from taking time away from schoolwork) also were barriers to physical activity (Longfield, Romas, & Irwin, 2006). Price and James (2006) also found similar barriers to physical activity: lacking time, feeling too tired, physical activity interfering with schoolwork. However, graduate students said combining physical activity with social activity was a good way to maximize their limited time (e.g., working out with a friend) (Longfield, Romas, & Irwin, 2006).

College students and campus recreation centers.

To take a closer look at college students' behaviors, a few studies have looked at college student use of campus recreation centers (CRC). One study found that most users of a campus recreation center were freshmen and sophomore male students who lived on campus and also were part of a fraternity (Miller, Noland, Rayens, & Staten, 2008). Usage was not defined in this study so it is unclear if males participated in physical activity during their time at the CRC. Despite this, researchers speculate that these males are already part of a group (i.e., fraternity) so they may be more inclined to participate in activities at CRC with their group. This relates to the idea of subjective norms from the TPB; peer support encourages people to engage in particular behaviors.

Furthermore, researchers examined college students' reasons for using or not using a campus recreation center (Omar-Fauzee, Yusof, & Zizzi, 2009). Reasons for using the CRC included the following: being a place to be healthy and reduce stress, a high quality facility, and being a place to socialize. Reasons for not using the CRC included being overcrowded, had an unwelcoming atmosphere, and inconveniently location. Non-users also stated they lacked confidence to be active at the CRC as they felt too out of shape to exercise

Researchers also asked users of the CRC to give suggestions for how to attract more students (Omar-Fauzee, Yusof, & Zizzi, 2009). Users suggested that students should come to the center with exercise knowledge, the CRC should create more competitive opportunities, and the center should be maintained properly. Non-users' had a few suggestions for getting students to come to the CRC, which included emailing information regarding CRC activities, training students in various exercises, and expanding the exercise facility to accommodate the student body. Non-users also reported that the CRC should offer competitive opportunities.

Suggestions for increasing physical activity and exercise among college students.

Some research provides suggestions for increasing physical activity and exercise among college students (Harring, Montgomery, & Hardin, 2010; Wharton, Adams, & Hampl, 2008; Buckworth & Nigg, 2004; Bryan & Rocheleua, 2002). One suggestion relates to decreasing accessibility and rewards from sedentary behaviors, such as computer and television time, while increasing accessibility and rewards related to active behaviors (Buckworth & Nigg, 2004). Another suggestion involves diversifying weight management programming via multiple communication channels, such as Greek organizations and residence halls (Harring, Montgomery, & Hardin, 2010). Health educators on college campuses should focus exercise as a way to maintain health, not a way to change negative self-perception (Wharton, Adams, & Hampl, 2008), even though students usually exercise for appearance reasons (Bryan & Rocheleua, 2002).

Nelson, Kocos, Lytle, and Perry (2009) examined determinants of health behaviors in male and female college students. Students said they were scared to use campus recreation facilities because they were new to them and did not know how to use equipment. Students also said they lacked motivation to be physically active and did not have peers to exercise with (social

support). Interestingly, many of these factors relate to group exercise benefits, such as educating participants about exercise, motivating participants, and creating a social environment in which to exercise. Tucker and Irwin (2009) found that college students are concerned with physical activity behaviors, followed by their body image, then dietary behaviors. However, they are more willing to engage in programs that address physical activity. Researchers speculate that students are interested in physical activity for the external benefits (i.e., appearance) rather than the health benefits because body image was of concern to them.

Male college student health concerns.

Clearly, college students are a cause for concern in terms of their health and exercise behaviors. However, the literature suggests there are important factors that should be addressed when considering males' health specifically. Davies, et al., (2000) examined perceived health needs and barriers to seeking help that college males experience. The researchers suggested that college males are a concerning population to universities in terms of not engaging in health behaviors, yet engaging in risky behaviors that harm their health. These researchers emphasize that these differences relate to gender-role stereotypes and males' socialization, which prevent them from being emotional, communicative, and willing to seek help (Davies, et al., 2000). In other words, males do not want to show their susceptibility so they suppress or hide their health concerns and problems.

Davies, et al., (2000) held focus groups that addressed three main questions: What do males perceive as health problems? What are barriers to males' usage of health services? What can universities do to encourage males to adopt healthier lifestyles? Davies, et al., (2000) found that males' top concerns included (1) using alcohol and drugs, (2) engaging in personal fitness behaviors to influences physique and athletic ability, and (3) maintaining a particular weight

(gaining or losing) and maintaining a healthy diet (including using supplements). Barriers included (1) the need to conceal vulnerability (relating to gender-roles and male socialization), (2) the lack of knowledge and misinformation about services, and (3) the lack of time to seek healthcare and not feeling susceptible to health concerns. Males' suggestions for universities included (1) offering free services, (2) providing incentives to males for participating in interventions, such as academic credit or food, and (3) requiring physical education and health classes (both formal and informal).

Similar to Davies, et al., (2000), other studies (Robinson, Robertson, McCullagh, & Hacking, 2010; Galdas, Cheater, & Marshall, 2005) have examined reasons why males (i.e., non-college) have poorer health when compared to females. Robinson, Robertson, McCullagh, and Hacking (2010) found that males tend to not seek health services and engage in health behaviors. Males also have a lack of awareness of their health needs. Lastly, masculine stereotypes prevent them from engaging in health services and health behaviors. This study also found peer support helped males make decisions regarding health behaviors. Galdas, Cheater, and Marshall (2005) conducted a meta-analysis of males and health help-seeking behavior. They found that no studies examine whether a man's perception of his own masculinity influences health decision-making. One of the goals of this exploratory study of males and group exercise is to determine if man's perception of masculinity prevents him from participating in a group exercise class.

Interestingly, many of the elements (i.e., concerns, barriers, and suggestions) found in Davies, et al., (2000) study explained why males seemed to attend group exercise less often than females. Of particular interest is the amount of concern these males put on fitness and their bodies (i.e., exercise and diet). After alcohol and drugs, a fit body is a main health concern to these males. In their definition, a fit body is the result of exercise, proper nutrition, and

supplements. It would seem then that males would be interested in group exercise, which is balanced, well-planned exercise with cardiovascular, muscular, and flexibility elements.

Masculinity and Femininity in Exercise Behaviors

There is an obvious division of exercise activities among males and females in the gym. More males can be found in the weight room and more females can be found in the group exercise rooms. As previously stated, this male and female divide relates to gender and social norms relating to the history of group exercise (Kennedy-Armbruster & Yoke, 2009; Block, 1991). Therefore, it is important to explore the gender as they relate to health and exercise behaviors.

Male and female body ideals.

Gender is often associated with masculine versus feminine. Gender is defined by physical appearance and actions (Courtenay, 2000). What is considered masculine or feminine is socially and culturally guided and is changeable (Schmalz & Kerstetter, 2006). A lean and muscular body is considered masculine in that it is powerful and dominant (Brown & Graham, 2008). Masculinity is also proclaimed through lack of engaging in healthy behaviors (e.g., not seeking medical care for illness) or engaging in risky behaviors (e.g., reckless driving) (Mahalik, Burns, & Syzdek, 2007). Masculine traits include lack of emotions and unwillingness to seek help (Davies, et al., 2000) as well as a strong competitive drive and aggression (Schmalz & Kerstetter, 2006; Block, 1991). In contrast, feminine traits include emotional, passive, non-competitive and needy (Block, 1991). Feminine activities tend to be aesthetically pleasing and without competition or aggression (Schmalz & Kerstetter, 2006).

The influence of history on masculine and feminine ideals.

Physical activity and participation in sports has traditionally been a major component of masculinity (Courtenay, 2000). However, throughout history, means of exercising and images of fit bodies have changed for both males and females (Block, 1991). For example, post World War II, sports were a common activity for males; however, females were not encouraged to play sports because they supposedly lacked the competitive nature that males possessed. Today, both males and females play sports because of historical shifts, such as Title IX (Gill & Kamphoff, 2010; Schmalz & Kerstetter, 2006). Likewise, the history of group exercise has changed too, but many of these changes have not been made obvious or acknowledged, most notably by males (Antrim, 2005; Riemer & Visio, 2003; Simpson, et al., 2003). Group exercise today is more than aerobic dance. With classes like boot camp, indoor rowing and cycling, no dancing is required. Despite the changes in group exercise, males still lack in numbers in group exercise classes (Ransdell, Vener, & Sell, 2004; Simpson, et al., 2003; Fishwick & Hayes, 1989). As Davies, et al., (2000) found, lack of knowledge or misinformation was a barrier to college males that prevented them from partaking in health related activities. Therefore, it can be reasoned that males do not know that group exercise is no longer aerobic dance. They may not know that gender-neutral classes are available today.

“Gendered Spaces”: Participation patterns of physical activity and exercise.

Whether or not traits of masculinity and femininity are stereotypes, biologically based, or somewhere in between, they may be reasoning for the male and female divide found at the gym. For example, the weight room is perceived as a man’s domain. Because a muscular man is considered desirable as put forth by social norms, males seek exercises and activities that can increase their muscular build (Block, 1991). Weight rooms are places where males can work on

their bodies to look like ideal males. On the other hand, the group exercise classes are considered a woman's domain.

Historically, group exercise started as aerobic dance. Accordingly to gender socialization, dancing was seen as a non-competitive female activity where as competitive sports were for males. Females were also encouraged to tone muscles, not build them, to keep their feminine figures (Block, 1991). The gender divide created at the inception of aerobic dance has not changed much despite aerobic dance morphing into a gender-neutral fitness format known as group exercise. In other words, females still dominate group exercise class and males engage in other forms exercise.

This notion of gender and differing exercise choices is explained by Johansson (1996), who suggests that "gendered spaces" help gym-goers shape their bodies and identities (i.e., what is feminine and masculine) at the gym. There are "gendered spaces" at the gym to help females look feminine and males look masculine. The standards for what is feminine and masculine are set forth by social norms. For example, social norms suggest that females should have toned and lean muscles, not bulky muscles. As a result of this norm, females avoid weight lifting activities to prevent adding muscle to their bodies.

There is also a concern relating to social norms and gender expectations. If females and males do not engage in their "gendered space," they can face social ridicule. For example, if a man took a group exercise class or a woman lifted weights in the weight room, Johansson (1996) suggests that it is disliked by opposite gender because that gendered space is being utilized by someone of another gender. Johansson (1996) theorizes that this is because gender order is threatened. This threat comes from the idea that the space where these individuals feel comfortable might be overcome by the opposite group. Their gender identity is endangered.

When social norms are being followed, selection of exercise relates to closely to gender (Johansson, 1996). For example, a man who thinks he lacks a muscular build will go to the weight room, not a group exercise class, to get stronger. This may be due to the fact that the man does not see many males in group exercise classes or his peers use the weight room for exercise. As a result, this man will more than likely to go the weight room to work on the body he desires. The reverse may also be true. A woman looks to build her strength, but only sees males in the weight room. However, she notices a group exercise class called “Total Body Strength” with females who have the body she desires. Therefore, she may elect to go to the group exercise class because it is the norm she needs to follow to achieve the body she desires.

This idea of exercise preference among different genders and “gendered spaces” has been well studied in the literature. A meta-analysis of studies about physical activity preferences of college students found that college males preferred sports and strength activities where as college females preferred aerobics, dance, and yoga (Keating, Guan, Pinero, & Bridges, 2005). Research on adult United States population found that males tend to participate in weight lifting and golf. In contrast, females participate in aerobics (group exercise) and bicycling (Simpson, et al., 2003). In a similar study completed in Australia, males preferred golf, cycling, and running. Females, on the other hand, engaged in aerobics (group exercise), tennis, and netball (Active Australia as cited in Ransdell, Vener, & Sell, 2004). Riemer and Visio (2003) had comparable findings to the aforementioned studies: Gymnastics and aerobics (group exercise) are feminine activities where as football and wrestling are masculine activities.

A study by Burke, Carron, and Eys (2006) examined exercise context, rather than actual activities. They found that college males prefer exercising with someone or alone, but not in a group exercise class setting. College females preferred exercising with someone or in a class setting over exercising alone. Reasons for college students' preferences were not discussed in the research study.

Masculinity and males' health.

Research studies have also focused on the influence of social norms on males' health. Studies on males' health confirm that masculinity and gender socialization play significant roles in males' health behaviors (Sloan, Gough, & Conner, 2009; Garfield, Isacco, & Rogers, 2008). If males do not uphold these norms of masculine behaviors (i.e., strength, no weaknesses), they risk punishment and ridicule from peers. Not following social norms can lead to stigmas (Schmalz & Kerstetter, 2006). Interestingly, males who more closely follow masculine norms have a higher frequency of engaging in behaviors that put their health at risk (Mahalik, Burns, Sydek, 2007). One study found that adult males, in a focus group setting, described talking and even thinking about health as feminine (Sloan, Gough, & Conner, 2009).

In terms of physical activity, males' reasons for not being active include avoidance of looking unskilled or weak during physical activity (Garfield, Isacco, & Rogers, 2008). A motivator for males to exercise includes being able to demonstrate skills and perform well to gain social recognition (Kilpatrick, Hebert, & Bartholomew, 2005). Similarly, male college students perform physical activities they already feel comfortable doing, which leads to performing well and social recognition (Hildebrand & Johnson, 2001)..

The Theory of Planned Behavior and Exercise Behaviors

Ajzen's Theory of Planned Behavior (TPB) is based on an individual's attitudes and perceived control of a behavior as well as social influence. Together, these three constructs influence one's intentions to engage in a specific behavior, which may lead to actually doing the behavior. The TPB originated from Ajzen and Fishbein's Theory of Reasoned Action (TRA), which only included attitudes and social influence. Ajzen posited that the TRA lacked the element of perceived behavioral control, or one's perception that one has skills and resources needed to complete a behavior (Biddle & Mutrie, 2008). With this new inclusion of perceived behavioral control, the TRA became the TPB, which included the three constructs of attitude toward the behavior, subjective norms, and perceived behavioral control. Because of these constructs, notably attitudes and norms, the TPB can be useful in researching topics with historical, political, economical, and cultural contexts.

Attitude toward the behavior, the first construct in the TPB, involves beliefs about a behavior and evaluation of outcomes. Beliefs about a behavior relate to the relative benefits or harms and ease or difficulty of the behavior. Evaluation of outcomes refers to the result from engaging in the behavior relates to the individual. For example, by engaging in the behavior, the outcome can be beneficial or harmful and can aligns or not align with personal goals. As a result, beliefs and evaluation of outcomes form the individual's attitude about a behavior. In terms of exercise, if an individual believes that exercise leads to a particular outcome, such as a healthy body, he or she will likely have a positive attitude toward exercise. Next, the same individual examines possible outcomes of engaging in exercise and the importance of these outcomes to the individual. If the individual considers that exercise will reduce the risk of cardiovascular disease and this is important to the individual, he or she will likely have a favorable attitude toward

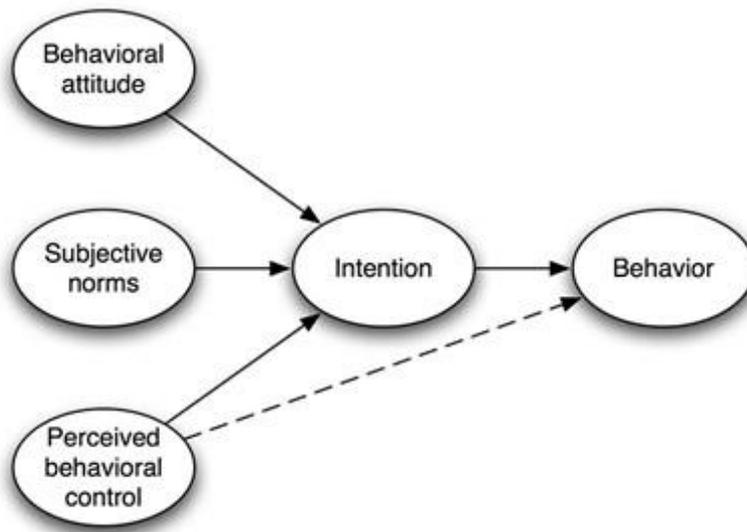
exercise. These favorable attitudes translate to good intentions toward engaging in exercise, which may lead to actual exercise.

The next construct in the TPB is *subjective norms*. Subjective norms involve beliefs of people who are meaningful to the individual and the motivation to abide by these meaningful people. For example, if one's peers believe exercise is important then the individual creates a subjective norm that exercise is important. This is that individual's perception of what others believe based on one's interpretation. Also important is the individual's motivation (desire) to follow the exercise behavior of friends. Together, these elements lead to intention to engage in exercise, which may also lead to actual exercise.

Lastly, *perceived behavioral control* is important to the TPB. Control variables and power over control variables are the components of perceived behavioral control. Control variables are the perceived factors, both personal and environmental, that can facilitate or inhibit engaging in a behavior, such as location of fitness facilities, work schedule, and family responsibilities. Power over these variables, which has been compared to Bandura's concept of self-efficacy, is the perceived ability to overcome the control variables (Biddle & Mutrie, 2008). For example, if an individual feels he has a very busy work schedule that does not allow time for exercise, he may feel a lack of control over the situation. However, if a gym opens up across the street from his office, the individual can exercise during the lunch hour. Thus, the individual feels a sense of control in the situation.

It is important to note the dotted line between perceived behavioral control and behavior in the TPB image below. Ajzen hypothesized that perceived behavioral control can predict behavior *directly* when perceived control relates closely to actual control. In the example above, even though the individual might have an increased sense of control over exercise, he still has a busy work schedule and may not be able to exercise during the lunch hour. However, if the individual brings work to the fitness facility, then the person will surpass intention and actually engage in the behavior. This is because his control over the situation closely related to his actual control.

Figure 1: Theory of Planned Behavior (Armitage & Christian, 2004)



Consistently, the TPB constructs have been found to relate to exercise intention among college students (Kwan, Bray, & Martin Ginis, 2009; Blanchard, et al., 2007; Norman & Conner, 2005; Bryan & Rocheleau, 2002). Because of the strong correlations between the TPB constructs and intention, researchers suggest modifying these constructs in health interventions (Bryan & Rocheleau, 2002). For example, determining means of improving attitude would affect intention. It is also suggested to keep in mind why college students engage in exercise, which is typically appearance focused, not health-related.

For reasons this study hopes to discover, it may be that males' attitudes (first construct of the TPB) about group exercise are somehow prohibiting them from intending and actually engaging in a group exercise class. A possible reason includes the expectation outcome that males will not be challenged in group exercise (i.e., group exercise is not a hard workout or it is a workout for females).

Subjective norms (second construct of the TPB) may play a role in why males do not utilize group exercise. As previously stated, the history of group exercise as "aerobics" influenced social norms. These social norms have carried over into today and help create subjective norms (how peers' views influence an individual). Thus, this study seeks to determine if males do not have the intention to engage in group exercise because the behavior is not considered masculine enough by the standard of their subjective norms. Interestingly, there are males who participate in group exercise. Based on the TPB, a possible reason is that these males engage in group exercise because they are not motivated to comply with these subjective norms.

Lastly, perceived behavioral control (third construct of the TPB) may influence males' lack of intention to engage in group exercise. Males may experience personal and environmental factors that impede their intention to utilize group exercise. For example, being the only male in the group exercise class may be a personal concern. Another concern may be that they do not know anyone in the group exercise class and do not want to take the class without friends. Both of these situations may lead to feeling of no control; thus, they do not want to participate in group exercise classes. In addition, males may feel they will not be able to complete the exercises due to their own inability or lack of understanding, which leads to feelings of no control. Because of the historical and cultural contexts of group exercise, the aforementioned examples of the TPB constructs fits well with trying to understand why males do not attend group exercise classes as similar to females.

Although the TPB has been found to be useful in examining attitude, subjective norms, control in terms of intention and actual behaviors, there are a few concerns with the TPB. One major concern is that the TPB measures behavior intention at one point in time (cross-section). Although attitudes, norms, and control remain relatively stable over time, there is still a chance they can change; thus, intention and behavior can change as well. In a study by Chatzisarantis, Hagger, Biddle, and Smith (2005), the relationship between the TPB construct of attitude" with the intention to do the behavior is stable at least more than six weeks. They also found that the intention to do a behavior appears to weaken overtime as well. This may be due to weakening of the attitude, subjective norm, or control levels that influence intention, which then influence behavior. Furthermore, although many studies show that the TPB does an effective job of accounting for intention to engage in a behavior, there is still a concern that intention does not consistently translate to actions/behaviors (Biddle & Mutrie, 2008; Norman & Conner, 2005). To

address this, Norman and Conner (2005) examined planning as a means of moderating the intention-behavior relationship. They found that moderate to high levels of planning improved the intention-behavior relationship. Low planning had a weak or no effect on the intention-behavior relationship. Planning was measured on a scale of one to seven, with seven being higher planning.

Another concern about the TPB is its uni-directional nature. For example, once an individual completes a behavior (based on intention, which is based on attitudes, subjective norms, and control), an individual may change their attitude about the behavior or feel less in control of the behavior than they originally thought. However, the TPB is not considered multi-directional, which may demonstrate that the theory is incomplete. Once the behavior has been completed, it can be supposed that the individual begins the process of determining intention to engage in the behavior again. This would be done by re-evaluating attitude, subjective norms, and control.

Yet another concern is that the TPB does not address how the constructs of attitude, subjective norms, and control may interact with each other. One's perceived behavioral control and attitude about exercise (i.e., is it too challenging to accomplish) may interact with each other, but this is not accounted for in the TPB. In addition, friends' beliefs about exercise (subjective norms) would seem to influence one's attitude and perceived control over the behavior. Again, it would seem that the TPB might be enhanced if the interplay of constructs were examined. To address this, Ajzen (2010) states that the constructs are "conceptually independent predictors of intentions," but they can be "empirically" related, which is exemplified above.

In summary, the TPB is a useful theory in examining behavior, specifically exercise behavior. Although it has a few faults, the TPB is a practical theory for examining topics that have historical, political, and cultural contexts. With that said, the TPB will be helpful in exploring males' attitudes, subjective norms, and perceived behavioral control relating to the historical and cultural contexts of group exercise.

Chapter Three: Methodology

As discussed in the literature review, the history of group exercise and social norms of masculine and feminine behaviors may be reasons for the gender gap in group exercise classes. The present multi-method study sought to understand the gender gap in group exercise using the Theory of Planned Behavior as a framework. More specifically, the research questions of this research included:

- Are there gender differences in *attitude* regarding exercise?
- Are there gender differences in *attitude* regarding group exercise?
- Are there gender differences in *subjective norms* regarding exercise?
- Are there gender differences in *subjective norms* regarding group exercise?
- Are there gender differences in *perceived control* regarding exercise?
- Are there gender differences in *perceived control* regarding group exercise?

IRB approval was attained in early fall 2011. After obtaining participant consent, focus groups were utilized to gain a general understanding of gender differences among female and male group exercise participants and non-participants. Quantitative data were also collected from a validated Theory of Planned Behavior survey (Rhodes, Courneya, & Jones, 2003). Together, the qualitative and quantitative data were used for the purpose of triangulation and complementarity. With the basic research structure in mind, this chapter expanded upon why qualitative research was important for this study. This chapter also examined the methods used to complete this study, including participants and recruitment, data collection, and data analysis.

Qualitative Research Framework

By definition, qualitative research is collecting information about people in a social-cultural context (Payton, 1994). The research sought depth and richness of information directly from the persons of interest and their experiences. According to Patton (2002), qualitative research decisions should be guided by a qualitative framework that includes design strategies, data collection and fieldwork strategies, and analysis strategies. Design strategies may include naturalistic inquiry (non-obtrusive research), emergent design flexibility (adding new questions as research progresses), and purposeful sampling (seeking information-rich cases). For the purpose of the present study, emergent design flexibility was used in terms of developing new questions as needed during focus groups. These new questions were dependent on where the conversation naturally flowed from the pre-determined questions (Appendix C). Emergent design flexibility was noted throughout the chapter when it was used.

The next component to Patton's qualitative framework is data collection and fieldwork strategies, which include data sources (focus groups, interviews, observations), personal experience and engagement (interacting with persons of interest), empathetic neutrality and mindfulness (respect and awareness of persons of interest and environment), and dynamic systems (paying attention to the research process and how it can change as research progresses). In the present study, focus groups and individual interviews were used to obtain data. During these focus groups and interviews, respect for the participants and their viewpoints was always a priority. Participants were allowed a chance to fully explain their ideas without interruption. If further, clarification was needed, participants were asked to expand upon an idea so the researcher would not have to infer or speculate when reading the transcripts at a later date. This aligns with Patton's notion of empathetic neutrality and mindfulness.

The final component to Patton's qualitative framework is analysis strategies, which revolve around unique case orientation (each case is unique), inductive analysis and creative synthesis (discovery of new themes and patterns), holistic perspective (topic of interest is complex), context sensitivity (find suitable contexts, avoid generalizations), and voice, perspective, and reflexivity (researcher trustworthiness). For the present study, each focus group participant was viewed as an individual in the group. Although the group consisted of similar individuals in terms of gender and group exercise participation or non-participation, each person had individual viewpoints and rationales. Every response was considered unique to the individual, which is consistent with Patton's unique case orientation. When considering the individuality of each focus group participant, context sensitivity came easily when examining the focus group data. For example, although some females and males had never participated in group exercise classes, they had participated in sports teams. They mentioned this as a factor that led them to view group exercise classes as a positive behavior because of the team nature of group exercise classes. Being aware of this information gave the researcher perspective for participant comments.

Regarding voice, perspective, and reflexivity, the researcher in the present study utilized a checks and balance system with trained independent research assistants. The research assistants looked at the data independently from the researcher for the present study throughout the data collection and analysis procedures to ensure bias was not a factor in the present study. The use of research assistants was described thoroughly in this chapter.

Participants

Participant composition and sample size.

A total of 46 undergraduate and graduate students at a large Midwestern university participated in focus groups about gender, exercise, and group exercise. Undergraduate and graduate students were categorized according to their gender and group exercise participation or non-participation. Category totals were 16 females who participated in group exercise, 10 females who did not participate in group exercise, 9 males who participated in group exercise, and 11 males who did not participate in group exercise. A common characteristic for focus group participants included undergraduate and graduate students who were current regular exercisers, which is defined as 300 minutes of moderate intensity activity per week (Centers for Disease Control and Prevention, 2010). The reason for only having regular exercisers participate in this study was because these people understand the importance of exercise. It was a commonality among all focus group participants, which means there was one less confounding factor in this study.

Rationale for including undergraduate and graduate students.

The reason for including undergraduate and graduate students in the present study was due to the significant lack of males who participate in group exercise classes. This fact was confirmed by the Assistant Director of Wellness Services at The University of Illinois at Urbana-Champaign (J. L. Kroencke, personal communication, March 16, 2011). The present study would be impossible to conduct if only undergraduates or graduate students were used. Furthermore, it is not uncommon to conduct non-comparison studies involving both undergraduate and graduate students on physical activity and exercise (Ozdemir, Celik, & Asci, 2010; Nelson, Lust, Story, & Ehlinger, 2009; Mowatt, DePauw, & Hulac, 1988).

By including both undergraduate and graduate students in the present study, potential differences and commonalities in the two groups needed to be addressed. As for potential differences, graduate students were older in age and perhaps more mature (not measured in the present study). Age and maturity further relate to several areas. First, graduate students may be more comfortable with their self-image and body image. This may translate to not caring what others think about them and their exercise choices and behaviors. Second, since graduate students are generally older in age and maturity, they may have more knowledge about exercise and the importance of exercise variation (e.g., cross training, participating in a variety of activities for balanced workouts and to prevent injuries). These factors may make graduate students more comfortable discussing their thoughts on exercise and group exercise in a focus group setting compared to undergraduate students.

Potential commonalities between undergraduate and graduate students were also important for the present study, especially in terms of decreasing confounding. One of the criteria for inclusion was that all participants must be regular exercisers, which was defined as 300 minutes of moderate intensity activity per week (Centers for Disease Control and Prevention, 2010). Thus, by participating in regular exercise, all participants in the present study deemed exercise as important. Another criterion for inclusion was that all undergraduate and graduate students were to be enrolled as students at a particular large Midwestern university. Hence, all students were in the same geographic location and using the same campus recreation facilities and programming.

Participant recruitment.

Recruitment occurred at Campus Recreation Activities and Recreation Center (ARC) and Campus Recreation Center East (CRCE). To locate focus group participants who participated in group exercise, potential participants were recruited from a variety of group exercise classes (cardiovascular-based, strength-based, mind-body) during the fall 2011 semester. There was an announcement in the group exercise weekly announcements, which was read prior to the beginning of class, asking if participants were willing to participate in a focus group. The instructor had interested participants legibly write their names and emails on a form, which was kept in a locked closet in the group exercise rooms only accessible by instructors until the researcher could pick up the forms.

To recruit focus group participants, especially those who did not engage in group exercise, participants were recruited from general education and graduate student classes who completed the Measures of Exercise Social Cognition (Rhodes, Courneya, Jones, 2003). Attached to the survey was an additional form that asked participants if they wanted to further be involved with a focus group to discuss their exercise preferences. Those interested in participating in the focus groups provided their name and email address. The researcher later contacted these interested individuals. To recruit additional focus group participants in any of the four focus group categories, snowball sampling was also used. This involved the researcher asking focus group participants if they knew of anyone who would be interested in participating in the focus groups.

Sampling bias.

Focus group participants who took part in this study self-selected themselves; thus, the sample is not random and may not be representative of how all male and female undergraduate and graduate students feel about exercise and group exercise. With that said, it was important to gather as many details as possible when describing focus group conversations. For the present study, demographic sheets (see Appendix A) were used to attain basic information about participants, which were matched with each participant's seat in the focus group and respective comments from the person in that seat (see "Procedures" below for details on this matching process). With these specific details known for each participant, variations in focus group participants and their experiences may be *transferable* (i.e., externally valid) to similar contexts, potentially making the data less biased and more trustworthy (Lincoln & Guba, 1985).

Data Collection**Focus groups and rationale.**

Qualitative data collection occurred through focus groups. One reason for gathering qualitative data via the focus groups was due to social nature of the present study. As discussed in the literature review, there are historical and cultural contexts (i.e., group exercise origins as an aerobic dance program developed for wives of U.S. Air Force servicemen in the 1960s) that relate to group exercise. This information would not have been derived from a survey. Furthermore, focus groups open up the opportunity for a variety of comments and concerns to be expressed that are difficult to attain with quantitative methods (Mertens, 2003). Also, using a qualitative method to conduct research may be better able to determine the potential diversity in results. This helps the researcher better understand what is being studied when compared to the prescribed responses found in quantitative research.

Focus group format was informal with open-ended questions. This allowed participants to answer questions in their own words and provide their own perspective (Patton, 2002).

According to Patton (2002), informal conversation focus groups can provide more depth of comments when compared to a structured interview (Patton, 2002). Furthermore, asking open-ended questions in the same order can help the researcher organize and manage participant responses (Patton, 2002). Although focus group questions were asked in the same order, new questions were developed on the spot if a particular topic of interest developed among the focus group participants (i.e., emergent design flexibility). For example, if a focus group participant discussed why they did not participate in group exercise classes, the researcher asked the question “why does anyone else here not participate in group exercise?” to the entire group.

Procedures.

Focus group participants signed a letter of informed consent and filled out a demographic sheet and survey (see Appendix A and C) before the focus group began. To protect confidentiality, participants were asked to not discuss comments from the focus groups with other people after the focus group. Also names of participants were not used during the focus groups. If a name was accidentally stated, it was eliminated from the transcript. The focus groups were digitally recorded and transcribed verbatim.

There were two to three focus groups for each of the four categories of participants: females who participated in group exercise, females who do not participate in group exercise, males who participate in group exercise, males who do not participate in group exercise. Focus groups had a range of 2 to 9 participants per focus group, which is considered appropriately sized (Krueger & Casey, 2000). Each focus group session lasted approximately one hour. The researcher set up potential focus group times and participants selected which time option worked

best for them. All focus group occurred in evening on a Monday, Tuesday, or Wednesday. Focus groups took place at a Campus Recreation's Activities and Recreation Center meeting room during fall 2011 semester. Compensation for participating in focus group included either three free group exercise class passes or a Campus Recreation facility day pass.

Individual interviews.

Due to difficulty with meeting at pre-arranged focus group times, two males who participated in group exercise and one male who did not participate in group exercise took part in in-depth interviews instead of focus groups. These interviewees went through the same process of filling out consent forms, demographic sheets, and surveys. They were also asked the same questions in the same order as focus group participants.

Focus group researcher roles.

Each focus group consisted of a moderator/note-taker (researcher), a facilitator, and focus group participants. The moderator/note-taker (researcher) introduced the study and guidelines for the focus group. Then, the facilitator, who was trained by the researcher, led the focus group participants through the focus group questions (see Appendix B). There were two facilitators trained to lead the focus groups so all focus groups dates could be led by a trained facilitator. The moderator/note-taker (researcher) only spoke to the focus group participants if the facilitator needed guidance or a new question arose (i.e., emergent design flexibility). The moderator/note-taker (researcher) also made closing comments for the focus groups. In terms of note-taking responsibilities, the moderator/note-taker (researcher) kept track of who was speaking by having each seat numbered on a seating chart in advance of the focus group. The moderator/note-taker (researcher) wrote down the first few words each participant said to make sure focus group participant comments and transcripts could be linked for the purpose of clarity. For example, if

the person sitting in seat #2 according to the seating chart spoke, the moderator/note-taker wrote “2” and the first few words of that focus group participant’s sentence.

Although the researcher may have known some of the focus group participants, it was important to have the researcher present at the focus groups as the moderator/note-taker. By briefing the focus group participants prior to the start of the focus groups, the researcher established the importance and seriousness of the research. Furthermore, the researcher was able to address any problems or concerns that came up during the focus group, such as language use that was or was not appropriate, so that the focus groups participants did not feel threatened or in a tense situation. The researcher was also able to further probe topics that came up and were deemed important by the researcher. Lastly, the researcher was needed to be present because it would be difficult to find someone who would commit to running 8-12 focus groups without monetary compensation.

Focus group questions and format.

Focus group questions related to exercise and group exercise behaviors, as well as Theory of Planned Behavior (TPB) constructs: attitudes, subjective norms, and perceived behavioral control (See Appendix B). As stated in the literature review, the TPB was a useful framework for the present study in that the TPB constructs relate to the historical, cultural, and social aspects that may account for the gender differences with exercise and group exercise. Focus group questions about the construct of attitude involved the importance of exercise and group exercise, attitudes about exercise and group exercise, and perception of exercise and group exercise as a feminine, masculine, or gender-neutral behavior. Focus group questions about subjective norms related to peer influence on exercise and group exercise behaviors as well as feelings of “fitting in” at the campus exercise facility and group exercise classes. Lastly, focus group questions that

related to perceived behavioral control inquired about feelings of success or lack of success during exercise and group exercise. Perceived behavioral control questions also related to factors influencing success when exercising or participating a group exercise class. Other focus group questions related to intention to engage in exercise and group exercise, such as comfort while exercising, incentives to take group exercise classes, and changes that could be made to group exercise classes to improve an individual's intention to participation.

Data Analysis

Content analysis.

Conceptual analysis, a type of content analysis, was used to analyze the qualitative data. Conceptual analysis, which is also known as thematic analysis, involves examining text for common themes (Colorado State University, 2011). In the present study, themes relating to the Theory of Planned Behavior constructs were used to guide analysis. Using a theory to guide analysis is a deductive form of analysis (Zhang & Wildemuth, 2009; Patton, 2002). Concepts that were regularly commented on were deemed of high importance or concern among focus group participants (Stemler, 2001).

Before analysis began, digital recordings of focus groups were transcribed verbatim by the researcher and independent research assistants, who were trained by the researcher. First, the researcher and independent research assistants read the transcripts completely and collectively come up with a codebook. Codes related directly to the TPB constructs (e.g., attitude, subjective norms, and perceived control). Codes were inclusive of all possible concepts and mutually exclusive. This means codes did not non-overlap or occur at the same time (Stemler, 2001). As already mentioned, conceptual deductive analysis was utilized in the present study (Zhang & Wildemuth, 2009; Patton, 2002). Conceptual deductive analysis is theory-driven. In the case of

the present study, the TPB constructs were used to interpret transcripts. For example, mention of beliefs about a behavior was coded as 1B from the codebook.

Two researchers independently read each transcript in sentence units. Each sentence was coded according to the codebook. Multiple codes could exist in the same sentence. Then, researchers compared their independent coding of the transcript with the goal of having coded at least 70% of the data coded in the same manner (Stemler, 2004). Because of the specificity of the codebook researchers created, coding was at least 70% the same for all transcripts. Independent coding and high standard of the same coding increased the present study's reliability due to inter-rater reliability.

Coded sentences were organized in a Microsoft Excel file. The Excel file had a tab for each of the four categories of focus group participants. Codes were listed across the top of the Excel file. Sentences were placed in the appropriate tab and under the appropriate code. Each sentence was also labeled with a number that related to the focus group participants' survey responses and the page on which the sentence could be found in the transcript. This was done in case the researcher needed to go back to the full transcript. Using results from the quantitative analysis, themes from qualitative data in the Excel file were searched. Selected themes either supported or were contrary to the quantitative findings.

Trustworthiness.

Trustworthiness relates to the authenticity of the qualitative methods (Patton, 2002). Researchers should seek an unbiased and full description of the data by exploring multiple perspectives in a situation (Patton, 2002). Lincoln and Guba (1985) have established criteria for data trustworthiness, which includes credibility (i.e., internal validity), transferability (i.e., external validity), dependability (i.e., reliability), and confirmability (i.e., objectivity).

Credibility.

To gain credibility, a method called *peer debriefing* is used, which involves a peer of equal status to the researcher who is not involved with project to ask the researcher questions regarding bias, methods, and theme development. Debriefing helps the researcher regain perspective on the research questions as well as release emotions related to the research (Lincoln & Guba, 1985). Another means of increasing trustworthiness through credibility involves *negative case analysis*, where the researcher examines outliers. Examining outliers helps the researcher look more closely at proposed themes and how they might be re-shaped. Lastly, *member checking* can increase credibility. Member checking involves the researcher sending focus group summaries or transcripts to focus group participants to have them read through the text to check for correctness of data from the transcripts. Participants review transcripts, making changes as needed to clarify what they originally stated.

For the present study, peer debriefing and member checking were utilized. The researcher had regular conversations with a peer who has significant research knowledge. At least once a week, the researcher contacted the peer for a phone conversation to discuss the research process. Usually, these phone calls occurred after all focus groups were completed for the week.

Member checking was also utilized. One person was randomly selected from each focus group by pulling a survey from the stack of surveys collected at each focus group. This person was contacted in person by the researcher. Each person was asked to read through transcripts from their focus group. They were asked to confirm or dispute what was on the transcript. In all cases, focus group participants agreed that information from the focus group transcripts was accurate.

Transferability.

Because qualitative research relies heavily on context and time, making general statements for the purposes of external validity may not be possible (Lincoln & Guba, 1985). However, researchers can *write up themes with meticulous detail* so that the data and subsequent themes may be transferred to other contexts and times that are similar (Lincoln & Guba, 1985). The notion of transferability was included in the present study. Themes were written specifically for a category of focus group participants. (Note: Some themes were based on gender alone and did not take into account group exercise participation or non-participation). Statements from other focus group were used to confirm or dispute themes, which helped refine the themes determined in the end. The process of determining themes involved examining qualitative findings that supported a particular quantitative finding. This involved searching the Excel file with the coded sentences from transcripts. The final themes written were a result of searching through all focus group participants coded sentences. Subthemes were also included to provide further specificity to themes. This specificity helps increase transferability to other contexts and times similar to this study.

Dependability.

A means of improving dependability involves having two researchers independently code the focus group transcripts, then come together to compare coding. This is known as *inter-rater reliability*. Using the guideline of at least 70% similar coding (Stemler, 2004), researchers in the present study did not have a problem with a lack of consistency. However, discrepancies were still discussed. If a researcher had different codes or one researcher coded a sentence and the other researcher did not code the same sentence, each researcher provided rationale for how they approached the sentence. A decision to code or not code was reached mutually for the sake of

having a consistent Excel file with all sentences coded that were deemed important enough to code by the researchers.

Confirmability.

Researchers can increase dependability of data by *re-examining the process* by which data were collected. In this re-examination, the researcher looks for “fairness of representation” of individuals being studied (Lincoln & Guba, 1985). The researcher also *verifies themes* and other results from the first analysis to the second analysis (Stemler, 2004). For the present study, the researcher and independent research assistant who originally coded the transcripts coded one transcript from each of the four categories of focus group participants again. The newly coded focus group transcript was compared to the originally coded transcripts. The comparison of the newly independently coded transcripts to the original coded transcript showed at least 70% similar coding to the original transcript coding. Consistency in coding of the same transcript a second time confirms the coding was completed appropriately the first time.

Quantitative Theory of Planned Behavior survey data.

This study utilized questions from the Measures of Exercise Social Cognition (Rhodes, Courneya, Jones, 2003) to assess Theory of Planned Behavior constructs. The alpha coefficients for attitude included $\alpha = .82$ for affective attitude scale and $\alpha = .79$ for instrumental attitude scale. The affective attitude scale refers to adjectives about feelings towards exercise. The instrumental attitude scale refers to adjectives about the effectiveness of engaging in exercise. However, the present study did not differentiate between affective and instrumental attitude. Instead, attitude was measured as a single construct because it was not deemed important to differentiate between feelings about exercise and attitude about effectiveness of exercise.

For the other two constructs in the TPB, the alpha coefficients for subjective norms was $\alpha = .73$ and perceived behavioral control was $\alpha = .69$ (See Appendix C). Survey data were gathered from undergraduate and graduate students at a large Midwestern university. Undergraduate students in general education classes were administered the survey. Graduate students in a variety of disciplines, such as the Natural Sciences, Social Sciences, and Humanities, were administered the same survey.

Quantitative data analysis.

Survey data were collected in undergraduate and graduate classes and from focus group participants. From here on out in this paper, these two types of data are referred to as “class survey data” and “focus group survey data” in order to differentiate between the sources. These two sets of data were analyzed separately because focus group survey data were further divided into group exercise participation or non-participation. All statistical tests were calculated using the StatPlus by AnalystSoft Inc. (Version 5).

Descriptive Statistics.

Descriptive statistics were determined for class survey data and focus group survey data to determine demographic information. Frequencies and percentages were determined for gender, race, and degree program. Average was determined for age. The same descriptive statistics were run on focus group survey data.

t-tests.

t-tests were run to determine if means from continuous data (dependent variables) between two categories (independent variables) were statistically different. Independent variables in the present study were females and males. Dependent variables were the three TPB constructs of attitude, subjective norms, perceived control, as well as a composite TPB score (a

sum of each of the three TPB constructs). For the data in the present study, a two-sample *t*-test with unequal variance was implemented. Two-tails were used which indicated that the mean can shift in either direction. Unequal variance indicated that the data were independent of each other (e.g., exercise attitude does not relate to group exercise attitude). *t*-tests were used to compare exercise questions to group exercise questions within male responses and within female responses. *t*-tests were also used to compare male and female responses to survey questions. In order to run the *t*-test, means for each construct of the Theory of Planned Behavior were calculated. In summary, 16 *t*-tests were run to compare means within male and within female groups as well as between the males' and females' means. To be more specific, a total of four *t*-tests were run for females and four *t*-tests for males to compare means for exercise and group exercise within both sexes. Additionally, four *t*-tests were run to compare females and males on all three constructs and the composite TPB score for exercise. Four more *t*-tests were run to compare females and males on all three constructs and the composite TPB score for group exercise.

ANOVA.

Single factor ANOVA tests enabled the comparison of means for more than two categories of independent variables. In the case of the data in the present study, means from four categories were compared: females who participated in group exercise, females who did not participate in group exercise, males who participated in group exercise, and males who did not participate in group exercise. Single factor ANOVA was selected because there were eight single factors (i.e., dependent variables) to test compared to the four independent variables (stated above). These eight single factors included: exercise attitude, group exercise attitude, subjective norms relating to exercise, subjective norms relating to group exercise, perceived control over

exercise, perceived control over group exercise, exercise TPB composite score, and group exercise composite score. In other words, eight ANOVA tests were run among the four categories of focus group participants.

If a statistically significant difference was found from the ANOVA test, a follow-up *t*-test was run to determine between which categories the difference existed. *t*-tests were also run within the four categories to compare responses for exercise and group exercise. For example, means for exercise and group exercise were compared for females who participated in group exercise. Comparing exercise and group exercise means for each of the three constructs and composite TPB score for the four categories of focus group participants means an additional 16 *t*-tests were run.

Complementarity and Triangulation.

Complementarity occurs when results from one form of data collection are used to enhance the meaning of the other form of data collection. In the present study, qualitative data were used to enhance the meaning of the quantitative findings. The quantitative findings served as the basis for the search and development of qualitative themes.

Another means of examining data is called triangulation. Triangulation involves comparing multiple sources of data with the intention of finding similar results from the multiple sources (Patton, 2002; Lincoln & Guba, 1985). The goal of triangulation is to seek convergence between quantitative and qualitative data (Jick, 1979). Ideally, there are similar findings despite the different methodologies, which demonstrate consistent results and increased credibility (internal validity).

In the present study, quantitative and qualitative data were collected separately. Results were also determined separately. The comparing and contrasting of quantitative and qualitative

data occurred during theme development. Specifically, qualitative focus group findings were examined in terms of quantitative survey results. The researcher made a chart with all significant quantitative findings in sentence form (e.g. “Females feel they have more support and approval from peers to engage in exercise compared to group exercise.”). The researcher and independent researcher assistant both independently examined the qualitative results that were in the form of coded sentences organized in an Excel file. In the aforementioned chart, qualitative findings that either supported or were contrary to the quantitative findings were listed next to the quantitative findings. The coded sentences came from all focus group data, not any one specific category of focus group participants. This was because all focus groups discussed the same questions and there was a chance qualitative data from all focus groups could be used to support or deny quantitative findings.

Chapter Four: Results

This chapter reviewed the quantitative and qualitative results for the present study. Data were generated from (1) students enrolled in general education and graduate classes, and (2) focus group participants. First, demographics were examined and statistical tests were run to analyze the quantitative data. Next, qualitative results were explored in terms of the quantitative findings. Specifically, themes and subthemes that supported or refuted the quantitative results were developed and discussed in this chapter.

Quantitative Results

Survey data were collected and analyzed in two ways. One means of data collection was from undergraduate students in general education classes and graduate students in a variety of disciplines. These data are referred to as “class survey data.” The other means of data collection was from focus group participants. These data are referred to as “focus group survey data.” Both sets of data were analyzed separately because focus group participants were divided by gender as well as by whether or not they participated in group exercise. For each survey participant, a mean score was calculated for each Theory of Planned Behavior construct. Means were compared for each construct for exercise and group exercise within female responses and within male responses. A composite score of all three constructs was also compared for exercise and group exercise for females and males. The composite scores indicated how the theory functions as a whole rather than its individual constructs. Next, means for each of the constructs relating to exercise were compared between females and males. Means for each construct were also compared for group exercise between females and males. All statistical tests were calculated using the StatPlus by AnalystSoft Inc. (Version 5). Aside from the TPB composite score findings, there were six significant quantitative findings from the class survey data and four

significant findings from the focus group survey data. All four of the focus group survey findings were the same as class survey findings. Yet, it remains important to report the focus group survey findings because they provide more specific information regarding group exercise participation or non-participation among females and males.

Class survey data.

The following results and tables refer to class survey data.

Demographics.

A total of 457 undergraduate and graduate students responded to the survey. Data were cleaned by eliminating surveys that lacked a response for any Theory of Planned Behavior question. After cleaning the data, 439 surveys were deemed usable. In total, there were 308 (70.16%) females and 131 (29.84%) males responded to the survey. The average age of respondents was 23 years. In terms of race, 114 (25.97%) were Asian, 30 (6.83%) were Black, 27 (6.15%) were Hispanic, zero (0%) were Native American, six (1.37%) were Pacific Islander, 233 (53.08%) were White, and 28 (6.38%) were a combination of multiple races. One (0.23%) person elected not to provide demographic information related to race. Overall, 330 (75.17%) undergraduates, 45 (10.25%) master's degree candidates, 52 (11.85%) doctoral students, 11 (2.51%) students in professional degree programs, and one (0.23%) post-doctoral student responded (see Table 1).

Table 1

Demographic Data for Class Survey Participants

Demographic	<i>N</i>	%	Female	Male
Race	439	100	308	131
Asian	114	25.97	79	35
Black	30	6.83	21	9
Hispanic	27	6.15	20	7
Native American	0	0	0	0
Pacific Islander	6	1.37	6	0
White	233	53.08	160	73
Multi-racial	28	6.38	21	7
Missing	1	0.23	1	0
Degree Sought	439	100	308	131
Bachelors	330	75.17	241	100
Masters	45	10.25	11	7
Doctoral	52	11.85	20	9
Professional	11	2.51	34	14
Post-doctoral	1	0.23	0	1
Age	439			
(\bar{X})	23			

t-tests.

The *t*-test was used to determine if means from continuous data (dependent variables) between two categories (independent variables) were statistically different. For this data, a two-sample *t*-test with unequal variance was implemented. Two-tails were used which indicates that the mean can shift in either direction. Unequal variance indicates that the data are independent of each other (e.g., exercise attitude does not relate to group exercise attitude). *t*-tests were used to compare exercise questions to group exercise questions within male responses and within female responses. *t*-tests were also used to compare male and female responses to survey questions. In order to run the *t*-test, means for each construct of the Theory of Planned Behavior were calculated. In summary, *t*-tests were run to compare means within male and within female groups as well as between the means for males and females.

Comparing exercise and group exercise responses for females.

t-test results within the female survey responses for exercise and group exercise showed statistically significant differences for the constructs of subjective norms ($p < 0.001$) and perceived control ($p < 0.001$). Differences in means for subjective norms regarding exercise and group exercise suggested that the females in the present study felt they had more support and approval from peers to engage in exercise compared to group exercise. Differences in means for perceived control regarding exercise and group exercise suggested that females in the present study felt they had more control and less difficulty participating in exercise compared to group exercise. For the construct of attitude, there was not a statistically significant difference between mean scores ($p = 0.726$). Females did not have a difference in attitude regarding exercise and group exercise. Overall, the composite score for the TPB constructs indicated that there was a

difference in exercise and group exercise means among females ($p < 0.001$). This was expected because two of the three constructs had significantly different means (see Table 2).

Table 2

t-test Results for Females and Theory of Planned Behavior Constructs

Constructs	<u>Exercise</u>	<u>Group Exercise</u>	<i>t</i>	<i>df</i>
	Means			
Attitude	5.666	5.637	1.964	594
Subjective Norms	5.727	4.662	1.964***	603
Perceived Control	4.676	3.970	1.964***	612
Composite TPB	16.069	14.269	1.964***	606

*Significance at alpha level of 0.05

** Significance at alpha level of 0.01

*** Significance at alpha level of 0.001

Comparing exercise and group exercise responses for males.

Similar to females, *t*-test results within the male survey responses comparing exercise and group exercise showed statistically significant differences for the constructs of subjective norms ($p < 0.001$) and perceived control ($p < 0.001$). Differences in mean scores for subjective norms when exercise was compared to group exercise indicated that males felt they had more support and approval from peers to engage in exercise compared to group exercise. As for perceived control, differences in means for exercise and group exercise indicated that males felt they had more control and less difficulty participating in exercise compared to group exercise. Means for the construct of attitude did not differ for exercise and group exercise indicating attitudes for exercise and group exercise were not significantly different ($p = 0.110$). The overall composite

score for the TPB was statistically different between exercise and group exercise among males ($p < 0.001$). Again, this difference in means for the TPB composite score was expected because two of the three constructs showed differences in means between exercise and group exercise for males. The following table shows the results from t -tests comparing exercise and group exercise means among males (see Table 3).

Table 3

t-test Results for Males and Theory of Planned Behavior Constructs

Constructs	<u>Exercise Group Exercise</u>		t	df
	Means			
Attitude	5.678	5.468	1.969	259
Subjective Norms	5.767	4.378	1.969***	254
Perceived Control	5.125	4.211	1.969***	260
Composite TPB	16.570	14.057	1.969***	260

*Significance at alpha level of 0.05

** Significance at alpha level of 0.01

*** Significance at alpha level of 0.001

Comparing exercise and group exercise responses among females and males.

In order to compare male and females survey responses, t -tests were used to compare means among females' and males' for each of the following eight categories: exercise attitude, group exercise attitude, subjective norms relating to exercise, subjective norms relating to group exercise, perceived control over exercise, perceived control over group exercise, the TPB composite score for exercise, and the TPB composite score for group exercise. Statistically significant differences among females and males were noted for subjective norms for group exercise ($p = 0.040$) and perceived control over exercise ($p = 0.004$). For subjective norms

relating to group exercise among females and males, the difference in means suggested that peer influence was more significant among males than females when it comes to engaging in group exercise. Furthermore, males appeared to have less peer approval to participate in group exercise compared to females. For the *t*-test that compared perceived control over exercise, results indicated that females felt less control and more difficulty than males when it came to engaging in exercise.

Although statistically significant differences were found among males and females for subjective norms regarding group exercise and perceived control over exercise, the TPB composite score was not statistically different for males and females (exercise composite $p = 0.060$; group exercise composite $p = 0.449$) (see Table 4).

Table 4

t-test Results Comparing Females and Males for Theory of Planned Behavior Constructs

Constructs	Female Means	Male Means	<i>t</i>	<i>df</i>
Attitude– E	5.666	5.678	1.971	225
Attitude – GE`	5.637	5.462	1.970	249
Subjective Norms - E	5.727	5.767	1.970	239
Subjective Norms – GE	4.662	4.378	1.970*	236
Perceived Control – E	4.676	5.125	1.970**	246
Perceived Control – GE	3.970	4.211	1.969	265
Composite TPB – E	16.070	16.570	1.970	246
Composite TPB – GE	14.269	14.057	1.969	266

Note: E represents exercise and GE represents group exercise.

*Significance at alpha level of 0.05

** Significance at alpha level of 0.01

*** Significance at alpha level of 0.001

Focus group survey data.

The following results and tables refer to focus group survey data.

Demographics.

A total of 46 undergraduate and graduate students participated in the focus groups and responded to the survey. Of the initial surveys completed, 16 were females who participated in group exercise, 10 were females who did not participate in group exercise, nine were males who participated in group exercise, and 11 were males who did not participate in group exercise. Data were cleaned by eliminating survey that had missing data for a Theory of Planned Behavior survey question. Once the data were cleaned, 41 surveys were usable: 15 (36.59%) were from females who participated in group exercise, 10 (24.39%) were from females who did not participate in group exercise, seven (17.07%) were from males who participated in group exercise, and nine (21.95%) were from males who did not participate in group exercise). Average age was 23.83 years. Seven (17.07%) participants were Asian, one (2.44%) participant was Black, one (2.44%) participant was Hispanic, zero (0%) participants were Native American, zero (0%) participants were Pacific Islander, 30 (73.17%) participants were White, and three (7.32%) participants identified as multiple races. In total, there were twenty-four (58.54%) undergraduates, four (9.76%) master's degree candidates, 12 (29.27%) doctoral students, two (0.88%) students in professional degree programs, and zero (0%) post-doctoral students (see Table 5).

Table 5

Demographic Data for Focus Group Survey Participants

Demographic	<i>N</i>	%		
Sex	41	100		
Female	25	60.98		
Group Exercise	15	36.59		
No Group Exercise	10	24.39		
Male	16	39.02		
Group Exercise	7	17.07		
No Group Exercise	9	21.95		
Age	41			
(\bar{X})	23.83			
			<u>Female</u>	<u>Male</u>
Race	41	100	25	16
Asian	7	17.07	6	1
Black	1	2.44	0	1
Hispanic	1	2.44	1	0
Native American	0	0	0	0
Pacific Islander	0	0	0	0
White	30	73.17	16	13
Multi-racial	3	7.32	2	1
Degree Sought	41	100	25	16
Bachelors	24	58.54	18	8
Masters	4	9.76	2	1
Doctoral	12	29.27	2	4
Professional	2	0.88	3	3
Post-doctoral	0	0	0	0

t-tests.

t-tests were run within the four categories of focus group participants to compare exercise and group exercise responses for each of the TPB constructs and the TPB composite score. The four categories of focus group participants included females who participated in group exercise, females who did not participate in group exercise, males who participated in group exercise, and males who did not participate in group exercise. With the four categories of focus group participants and the four *t*-tests needed (for each of the three constructs and the composite score), a total of 16 *t*-tests were run.

Significant statistical differences were found for subjective norms ($p = 0.027$) and the TPB composite score ($p = 0.012$) between exercise and group exercise for females who did not participate in group exercise. For males who did not participate in group exercise, the constructs of subjective norms ($p < 0.001$), perceived control ($p = 0.012$), and the TPB composite score ($p = 0.002$), were significantly different between exercise and group exercise. There were no statistical differences between exercise and group exercise for females and males who participated in group exercise regarding any of the constructs (see Table 6).

Table 6

t-test Results for Four Categories of Focus Group Participants and the Theory of Planned Behavior Constructs

Compared Constructs	E Means	GE Means	<i>t</i>	<i>df</i>
FGE				
Attitude	5.729	5.981	2.048	28
Subjective Norms	6.067	5.667	2.048	28
Perceived Control	5.356	5.289	2.048	28
TPB Composite	17.151	16.937	2.056	26
FnoGE				
Attitude	5.743	5.086	2.131	15
Subjective Norms	6.250	5.250	2.120*	16
Perceived Control	5.400	4.333	2.101	18
TPB Composite	17.393	14.670	2.101*	18
MGE				
Attitude	5.735	6.102	2.179	12
Subjective Norms	5.857	5.571	2.201	11
Perceived Control	4.762	4.810	2.228	10
TPB Composite	16.354	16.483	2.179	12
MnoGE				
Attitude	6.159	5.556	2.179	12
Subjective Norms	6.222	3.667	2.131***	15
Perceived Control	6.148	4.000	2.120*	16
TPB Composite	18.529	13.222	2.131**	15

Note. E represents exercise and GE represents group exercise.

Note. FGE indicates female who participates in group exercise. FnoGE indicates female who does not participate in group exercise. MGE indicates male who participates in group exercise. MnoGE indicates male who does not participate in group exercise

*Significance at alpha level of 0.05

** Significance at alpha level of 0.01

*** Significance at alpha level of 0.001

ANOVA.

Single factor ANOVA tests enabled the comparison of means for more than two categories of independent variables. In the case the present study, means from four categories were compared: females who participated in group exercise, females who did not participate in group exercise, males who participated in group exercise, and males who did not participate in group exercise. Single factor ANOVA was selected because there were eight single factors (i.e., dependent variables) to test compared to the four independent variables. These eight single factors included: exercise attitude, group exercise attitude, subjective norms relating to exercise, subjective norms relating to group exercise, perceived control over exercise, perceived control over group exercise, exercise TPB composite score, and group exercise composite score. In other words, eight ANOVA tests were run among the four categories of focus group participants. Although the sample size in the present study was small, the ANOVA test was still run as this is an initial study. A larger study needs to be completed to complete more data, which would increase statistical power.

Statistically differing means were found for two ANOVA tests: subjective norms relating to group exercise ($p < 0.001$) and for the overall TPB composite score ($p = 0.005$) for group exercise. In order to determine between which of the categories the differing means existed, t -tests were run among paired categories. These follow-up t -tests indicated that means for subjective norms relating to group exercise for males who did not participate in group exercise were statistically different from the three other categories of females who participated in group exercise ($p < 0.001$), females who did not participate in group exercise ($p = 0.009$), and males who participated in group exercise ($p = 0.002$). These results suggested that males who did not participate in group exercise have statistically significantly less support and approval from peers

to engage in group exercise compared to the other three categories of focus group participants (see Table 7).

Table 7

ANOVA Tests to Compare Females and Males who did and did not participate in Group Exercise Relating to Theory of Planned Behavior Constructs

Constructs	<i>df</i>	<i>F</i>	<i>p</i>
Attitude – Exercise	3	0.411	0.746
Attitude – Group Exercise	3	1.292	0.291
Subjective Norms - Exercise	3	0.313	0.816
Subjective Norms – Group Exercise	3	7.897	3.390E-04***
Perceived Control – Exercise	3	1.535	0.222
Perceived Control – Group Exercise	3	1.922	0.143
Composite TPB – Exercise	3	1.466	0.239
Composite TPB – Group Exercise	3	5.020	0.005**

*Significance at alpha level of 0.05

** Significance at alpha level of 0.01

*** Significance at alpha level of 0.001

Because the ANOVA test that was run to compare means for the TPB composite scores for group exercise indicated that at least one of the means was significantly different, *t*-tests were run among each paired categories. Results showed statistically different mean TPB composite scores among the three following pairs: females who participated in group exercise and females who did not participate in group exercise ($p = 0.022$), females who participated in group exercise and males who did not participate in group exercise ($p = 0.009$), and males who participated in group exercise and males who did not participate in group exercise ($p = 0.032$). Means for the TPB composite scores were not statistically different for the following three pairs: females who participated in group exercise and males who participated in group exercise ($p = 0.668$), females who did not participate in group exercise and males who participated in group exercise ($p = 0.131$), and females who did not participate in group exercise and males who did not participate in group exercise ($p = 0.279$) (see Table 8).

Table 8

Follow-up t-tests for ANOVA

Categories Compared	GE Subjective Norms	Group Exercise Composite Score
	<i>p</i>	<i>p</i>
FGE and FnoGE	0.335	0.022*
FGE and MGE	0.815	0.022*
FGE and MnoGE	9.14E-04***	0.009**
FnoGE and MGE	0.502	0.131
FnoGE and MnoGE	0.009**	0.277
MGE and MnoGE	0.002**	0.032*

FGE indicates female who participates in group exercise

FnoGE indicates female who does not participate in group exercise

MGE indicates male who participates in group exercise

MnoGE indicates male who does not participate in group exercise

*Significance at alpha level of 0.05

** Significance at alpha level of 0.01

*** Significance at alpha level of 0.001

Qualitative Results

Qualitative themes were developed using the quantitative results as a guide. In other words, each construct that showed statistically significant means from quantitative data analysis was qualitatively examined. This was done for the purpose of triangulation. Qualitative results in the present study focus on explaining, enhancing, or showing evidence contrary to quantitative results. This was also done because qualitative questions expanded on the questions in the quantitative survey. That being said, through the use of complementarity, these qualitative results provide depth and reasoning to the quantitative findings. (Note: More information on how

triangulation and complementarity were used in the present study can be found at the end of chapter three.) Qualitative themes were not discussed for significant differences in means among composite scores. It can be assumed that significant mean differences in composite scores related to differences with the constructs. Instead, constructs were discussed in a more specific way compared to discussing the theory as a whole. There were a total of 13 themes and 10 subthemes.

Qualitative results were organized by gender and the TPB construct as the headings, which were bolded in the text below. Themes and subthemes, italicized below, were discussed that relate to the quantitative findings. Refer to Table 9-14 at the end of this chapter for a summary of the quantitative and qualitative results.

Females and Subjective Norms

Theme: Females who participated in group exercise decided to participate in group exercise regardless of peers.

A few focus group participants stated they were more motivated to exercise when they participate in favored activities, not because of peer influence. For example, a female group exercise participant said “[Peer support] doesn’t affect me. I just stick with the [group exercise class] schedule.” A number of other females mentioned that they attended group exercise classes they enjoy and peers have no influence on their exercise behaviors. One female group exercise participant discussed how peers do not influence her exercise.

It’s [going to a group exercise class] like the one thing I plan for the day, and then everything else that comes up, I just ‘okay well I’ll put this there and that there.’ But, like, group fitness is the one thing that’s always in my schedule. And they would rather you ‘oh, I have to study and I have to do this,’ you know? I’d rather come here and then do that stuff. But, they *don’t* influence me.

For females who participated in group exercise, peers did not influence exercise behaviors. Participating in exercise that they enjoy or fit into their schedules was more important than peer support.

Theme: Females who did not participate in group exercise felt they had more support and approval from peers to engage in exercise compared to group exercise.

Among females who did not participate in group exercise, many stated that peers seem to make exercising more appealing. A female who did not participate in group exercise stated, “If, like someone suggests it, I usually am more inclined to go to the gym.” In other cases, a few females needed peer support initially to exercise, but then were able to exercise or attend group exercise classes without a peer. One female group exercise participant stated, “I think the initial time is always the hardest time...usually at the end of the class, you’re kind of like ‘oh, I can do that.’ But I think it’s like the getting going and like walking in the [class].” Peers had a way of making each other feel comfortable in unknown situations. Whether it be exercising in close proximity to peers or encouraging words to each other, peers had a significant role in exercise behaviors, especially among females who did not participate in group exercise.

Females and Perceived Control

Theme: Females tended to participate in exercise behaviors for which they felt comfortable.

When female focus group participants were asked if they only participate in activities they feel comfortable doing, a consistent response was, “I have this elaborate workout plan in my head, but then one thing leads to another and I’m in the same exact comfortable routine” (female group exercise participant). Many participants actually seemed surprised when they gave some thought about their exercise plans and realized how their workouts were very routine and comfortable. As one female group exercise participant stated, “I never thought of it, but I do

stick with my comfort zone.” A common reason for staying within one’s comfort zone included “I feel better about myself when I’m good at something and I feel like I fit in” (female who did not participate in group exercise). Nevertheless, participants have attempted exercise behaviors that were outside of their routine. For example, one female who did not participate in group exercise stated “Sometimes I get daring and I try something new, but if it doesn’t work out I just go back to my old exercise habits.” This theme suggested that perceived control over exercise is important in feeling like a successful exercise session was achieved. Although female focus group participants acknowledged the importance of trying new exercises, the majority of participants agreed that the exercises they continue to do are the exercises they feel comfortable doing.

Theme: Females who did not participate in group exercise experienced specific concerns relating to perceived control and group exercise.

There were two subthemes that related to the specific concerns among females who did not participate in group exercise, perceived control, and group exercise.

Subtheme: Lack of comfort in the group exercise environment limited group exercise class participation among females who did not participate in group exercise.

Females discussed concerns that affected their lack of group exercise participation. Small, overcrowded classrooms with poor air circulation were a concern. Additionally, females had experienced classes where the instructor was not visible. One female who did not participate in group exercise said,

I think [group exercise classes] need bigger spaces. Um, cause...I, I don’t like to feel crowded when I’m working out. And , um, so usually when I do stuff now, on my own,

like jogging on a treadmill, you kind of have a set areas that nobody can really get into around you.

Comfort has a role in perceived control during exercise. The group exercise class environment is difficult to control, making it a challenge for some individuals to feel like it is a place where they belong.

Subtheme: Issues with making time to schedule a group exercise class prohibited group exercise class participation among females who did not participate in group exercise.

Adding a group exercise class to one's schedule is an extra commitment. This idea was consistently stated among females who did not participate in group exercise. One female who did not participate in group exercise said,

I don't really have the time, I guess. Cause, I have class starting at 9 AM and then I work till pretty late and then I don't want to wake up early to go. So, just coming to the gym is like an hour or two. I try to come every other day and I can come at any time. But, I feel like doing a [group exercise] class is a commitment I would have to add on to my schedule.

Also, not having group exercise classes at times convenient to these females, such as mornings and weekends, discouraged group exercise class participation. Many female focus group participants agreed with this idea. One female who did not participate in group exercise said, "For me, it's just this semester, my schedule itself didn't fit [the group exercise class schedule]. Cause like the times I'm available to do group fitness I didn't have any classes that I really loved."

From this subtheme, time and perceived control relate to each other. Without time to participate in exercise, a person may feel a lack control. This results in an inability to perform a

behavior (Ajzen, 2010). Interestingly, females who participated in group exercise created their daily schedules around the classes they would like to attend. These females were less concerned with convenient times of group exercise classes. See the first theme under “Females and Subjective Norms” (above) from more information on this.

Males and Subjective Norms

Theme: Males who did not participate in group exercise received support to engage in exercise.

The majority of male focus group participants consistently stated that they experienced peer support to engage in exercise. One male who did not participate in group exercise stated, “Um, [my peers] don’t influence me at all to do group exercise classes, but they do influence me to exercise more. If you workout with someone it will make it easier.” Peers also were motivators to exercise. A male who did not participate in group exercise said,

Um, I work out with my peers a lot and I personally don’t like working out solo, alone.

My friends influence me greatly when I work out. They motivate me to go [workout] and hold me liable as a partner to not let them down and not make them go alone.

It appears that males who did not participate in group exercise enjoy exercising with others versus exercising alone. Yet, group exercise is not a type of exercise in which they choose to participate. This was due to a lack of peer support to engage in group exercise.

Subtheme: Males who did not participate in group exercise might attend group exercise classes with the appropriate support.

Because males have reliance on peers to engage in exercise, many males stated that peers have or would likely influence them to participate in group exercise classes. As one male who did not participate in group exercise stated, “Well, depending on what specific exercise [the group exercise class] is...like weight lifting. I feel like I would fit in. However, if it was dance

exercise thing, then not so much.” Another male who did not participate in group exercise echoed this comment, saying, “If I had a roommate to motivate me to do it [group exercise class], then I might be more likely to go to a class or a few.”

Despite this prospective encouragement, males do not always get peer support to engage in group exercise classes. Focus group comments suggested that male peers are not supportive of each other participating in group exercise classes.

Theme: Males who participated in group exercise experienced disapproval or indifference for their group exercise participation.

When discussing peer support among male group exercise participants, focus group comments all related to males not getting support from peers to engage in group exercise classes. As one male group exercise participant stated, “So, the guys I work with think [group exercise class participation] is pretty weird, I guess...well, I think they think the dancing part of Zumba is weird.” This comment indicated the notion that dancing is thought of as a feminine exercise behavior, which is something a male should not be participating. Another male group exercise participant added, “...I kind of get made fun of by a friend for doing Zumba. He’s like ‘ehh, that’s not a real workout...I mean, I’ve done Zumba and I definitely have gotten my a** kicked at it, so it’s definitely a good workout.” Again, the idea surfaced that dancing was not a masculine activity and not a difficult type of exercise. These perceptions of difficulty relate to gender and normative behavior. Norms indicate that feminine exercise behaviors are less difficult than masculine exercise behaviors (Block, 1991).

To examine this idea further, focus group participants were asked what group exercise classes were considered feminine, masculine, or neutral. Males who did not participate in group exercise typically stated, “which ones aren’t feminine?” A couple of males commented that yoga

could be considered neutral. One stated his view was based on his awareness of yoga's ancient origins with male yoga practitioners. Again, perceptions have a role in how norms are developed. In this case, an awareness of the history of yoga helped form the view of this particular male.

Males and Perceived Control

Theme: Males who did and did not participate in group exercise experienced specific concerns relating to perceived control and group exercise.

There were two subthemes that related to males and perceived control.

Subtheme: Lack of comfort in the group exercise environment limited group exercise class participation among males who did not participate in group exercise.

Focus group data showed that males had an interest in exercising, but experience environmental factors that made group exercise class participation more difficult than other exercise behaviors. Males experienced feelings of discomfort and vulnerability from not fitting in during group exercise classes. This prohibited group exercise participation among males. A few males said they felt like they physically did not fit in a group exercise class because of their larger bodies. One male group exercise participant discussed his group exercise class experience: "I did *not* feel like I fit in at Zumba. I was a foot taller than everyone else and the only male." In being physically larger than females, males felt they stood out from females. They were more visible and so were their errors in a group exercise class. Males stated that they wanted to avoid being in situations where they do not appear to know what they are doing. As one male group exercise participant stated,

If [there's] a male group [present during exercise], it's like I want to be, or I want to take it to excess. I want to be the alpha male. I want to be the best man, the leader. And if it's

front of women, I want to be attractive. And if I can't do something, of course that is bringing my level, my score down, and I don't like that.

More specifically, males were concerned with being unable to complete the exercise in a group exercise class. A male group exercise participant said,

I feel like I exercise with success, but in a group setting, not knowing the routines, like doing like aerobics or something like that like a dance class, not knowing what the steps are I feel like I would be at the back of the room just like watching everybody.

Another male group exercise participant said he experienced feelings of discomfort related to being able to complete a group exercise class.

...if you go out there [to a group exercise class] and most people or even just one person is being heads and tails above the rest, then suddenly you feel uncomfortable because you feel like you should be as good as that one person. I suppose it's less of a fear of failure, and more of a fear of not being good enough to belong.

Males who did not participate were uncertain about the types of exercises involved with group exercise classes. However, they did have notions about what a group exercise class entails.

A male who did not participate in group exercise classes said,

I feel like if I had the right group [of people] surrounding me and the right group leader then I could feel successful in group exercise as well. However, if I have the wrong group of people, who don't really care and just go and are going to be like texting the whole time and checking out girls then no.

Despite this perceived lack of comfort and control associated with group exercise classes, males who participated in group exercise did not let preconceived notions about group exercise limit their participation. As one male group exercise participant stated, "I think that, for sure,

[group exercise] is perceived as more female activities. So, there's males that don't care and will go and there's males that do care and won't go because they perceive it as a female activity."

Subtheme: Issues with making time to schedule a group exercise class prohibited group exercise class participation among males who did not participate in group exercise.

Similar to females who did not participate in group exercise, males had concerns with fitting group exercise classes into their already busy schedules. A few males mentioned that more classes at different times might encourage them to participate. As one male who did not participate in group exercise said, "...if there were multiple options [for classes] in which one wasn't locked down to a specific schedule. And there were times provided throughout the day for specific group exercise to accommodate everyone, it might make it easier [to participate in group exercise classes]."

Perceived control over exercise relates to having time to participate in the exercise. When classes did not meet the needs of potential participants, they did not participate. As discussed with females, males who participated in group exercise classes arranged their schedule so they could take certain classes. That being said, some males who participated in group exercise appeared to have more perceived control over group exercise and their schedules than males who did not participate in group exercise.

Females, Males, and Subjective Norms

Theme: There were differences in what males preferred and what females preferred in terms of exercise behaviors.

There were two subthemes that related to females, males, and subjective norms.

Subtheme: Societal norms influenced exercise goals and subsequent behaviors.

During the focus groups, males repeatedly stated that their exercise goals involve building strength, not cardiovascular ability or flexibility. According to most males who did not participate in group exercise, group exercise classes were not places where males went to build strength. As one male who did not participate in group exercise stated, “I just associate males as like big, strong, testosterone, and then females that they’re trying to stay toned, thinner, and more fit.” Another male who did not participate in group exercise stated, “...when you think of guys you think of masculinity, getting bulk or bigger or whatever.” This thought that males seek a certain muscular look and females desire a toned look was consistently stated among many focus groups. When asked why they thought this, participants across these focus groups stated that society influences what was expected of males and females. They also stated that society followed the social norms for gender.

Males who did not participate in group exercise also stated that to build strength, they needed to exercise in a weight room. According to a male who did not participate in group exercise, group exercise participants exercise differently compared to males who lift weights to increase strength: “And just the people, I feel like [people who] would be [in a group exercise class] would be different than what I would want to work out around.” These thoughts show that males who did not participate in group exercise did not see themselves fitting in at a group exercise class, especially to increase their muscular strength.

Males who did not participate in group exercise classes were open about how gender and social norms influence their choice to not attend group exercise classes. One male who did not participate in group exercise explained his thoughts:

I mean it wouldn’t be being around a bunch of women that would make me uncomfortable, it would be the type of environment...I’m using a stereotype here, a

bunch of girly sorority girls, I'm going to be like, that's not the kind of environment I want to be in. It's not that they're women, it's that they're, whether it's intentional or not, they're producing this group identity and I don't want to be affiliated with it.

The stereotype of "girly sorority girls" refers to females who attend group exercise classes for socializing, not fitness. Furthermore, this male focus group participant suggested that males focus on the task of exercise. Whether true or stereotype, males who did not participate in group exercise were clear that group exercise classes were not a place they would first consider to enhance their fitness.

Males who did not participate in group exercise thought that "...girls don't like to do the same things as guys, specifically working out wise. In a group exercise class, "...the stuff they do isn't stuff guys focus on when they workout." However, males who did not participate in group exercise thought that group exercise classes were a good idea for inexperienced exercises. One male stated, "There's got to be guys out there that just don't have a clue how to work out...so it makes sense for them to go to a class." With further discussion, males who did not participate in group exercise classes did state that they feel as though they would fit in at a strength group exercise class versus a dance class. One male who did not participate in group exercise said he would participate in a group exercise class like weight lifting because "I feel I would fit in; however, if it was a dance exercise thing, then not so much." This is because dance is not an activity this male would feel comfortable doing due to dance having a feminine connotation based on normative behavior.

Subtheme: Peers influenced males' exercise behaviors.

Despite not feeling comfortable in a group exercise setting, males who did not participate in group exercise classes stated that they would attend a class with peer support. One male stated,

“If I had a roommate to motivate me to do [group exercise], then I might be more likely to go to a class or a few.” Another male stated that some classes may be better to try than others: “I don’t think any of my friends would push me towards group fitness. I don’t think it’s a negative thing if I were to do it. But I’d definitely be the butt of a joke if I went to Zumba.” Even with this prospective peer support, males who did not participate in group exercise stated that they did not get peer support to engage in a group exercise class: “I would consider it [attending a group exercise class if a peer was attending] more probably...but I don’t see any of my friends doing it.” These statements indicated the important role of peer support on exercise behaviors. It seems that males who did not participate in group exercise need peer support to engage in an exercise that is not supported by norms.

Theme: Males who participated in group exercise still participated despite norms.

There were two subthemes related to males who participated in group exercise despite norms.

Subtheme: Males who participated in group exercise move beyond peers’ comments.

Interestingly, males who participated in group exercise classes experienced the same norms that prevented males who did not participate in group exercise. Males who participated in group exercise stated that group exercise classes were challenging and helped them reach their fitness goals. Despite teasing for peers, they continued to participate in group exercise classes. One male participant said, “I do get made fun of, like teased a little bit for doing group fitness. Not in a bad way, but just like ripped a little bit. So, the guys I work with think it’s pretty weird I guess.” Likewise, another male stated that peers did not understand what group exercise entails: “I think [co-workers] think the dancing in Zumba is weird. And I guess they think that yoga is

still sort of like ‘new age.’” Males said this lack of understanding ended after they convinced peers to join them in a group exercise class. As one male group exercise participant said,

I also got like teased about [participating in group exercises classes]. They called it like Jazzercise and stuff like that and they have no idea what’s going on [in a group exercise class]. I’m just like ‘you guys just come one time,’ and one guy came and just got like killed by [a strength class]. And then he was like ‘okay, I guess this is a good workout.

The reason males who participated in group exercise continued to participate was due to successful exercise sessions, long term fitness results, and the motivation from group exercise classes. For most males who participated in group exercise, a motivator to come to group exercise classes related to success in the class setting versus workouts completed alone. One male group exercise participant said,

Because I don’t know that much about this gym specifically like ARC or CRCE and like when I run on the track I just feel weird. I don’t know. I feel a little more in my element at the group fitness classes. But that’s also because I know there’s going to be a teacher that like will teach all of us and we are all there to like follow someone. So in that way it’s very equalizing...no one know like what’s going to be the next song of anything so it doesn’t matter.

Another participant said that the uncomfortable feelings of being the only male in the room reside shortly after class begins: “I think when you first start it may be awkward because some girls look at you awkwardly. But after like five minutes no one cares because you’re all just like dead anyway [from the workout].” Besides eventually feeling comfortable being the only male in the group exercise class, males who participated in group exercise felt comfortable exercising without peers. One male group exercise participant stated that peers did not influence

workouts, “not even slightly. Um, like I’ve occasionally tired to get my friends to come out and they have like no interest. They don’t make fun of me for it. They don’t comment about it. They just...don’t care.”

A reason for trying a group exercise class for most males who participated in group exercise was sheer interest in the class. One male group exercise participant said, “I heard of [a class on a balance beam] and I thought that it was interesting and I wanted to try it.”

When asked about feelings related to exercising in a female dominated group exercise class, one participant acknowledged the fact that he entered a “very female dominated area,” but it did not influence his choice in coming to the group exercise class. Another participant echoed this comment and said that “...it’s not so important that most people who do group fitness are female.” For males who participated in group exercise, peer support is not required because an interest in the group exercise class was a more important motivating factor. Interestingly, females who participated in group exercise did not experience any teasing for participating in group exercise classes. This is because group exercise is thought to be a normative behavior for females.

Subtheme: Males who participated in group exercise classes motivated their peers to attend group exercise classes.

Males who participated in group exercise have influenced peers to attend group exercise classes. One male stated that “I’ve gotten a few friends to go with me and I have never been made fun of for it.” Sometimes peers even found out they enjoy group exercise class. As one male experienced: “The guy I recommended to come, he started going more regularly than me.” Males who participated in group exercise helped their peers feel more comfortable in a new workout environment. As already discussed, males who did not participate in group exercise

suggested that they would attend with peer support. This provides evidence that males who did not participate in group exercise were willing to try group exercise with a peer.

Theme: Females who did not participate in group exercise felt more inclined to attend group exercise classes with peer support.

Some females stated that they did or would feel more comfortable attending a group exercise class with peer support. One female said,

...there was a large group of people who would buy group fitness passes together and then go to classes as a group. So, if the rest of the group was going you're more likely to go, and you have more fun doing [group exercise classes] when you're with your friends.

Another female echoed this importance of peer support: "...my friends will be the ones who will sign up for a class and be like 'you should be my yoga buddy' and that kind of pushes me to buy a pass." Additionally, many females stated that it seems easier to fit in a group exercise class compared to other areas of the gym simply because group exercise classes are social places that are diverse in age, race, and ability. As one female who did not participate in group exercise stated, "I've never really participated in group classes here, but I view them and I think it'd be really fun. So I think so, there's a big group, a big variety of people, I think it would be fun." Peer support and the feeling that others like you participate in a group exercise classes makes attending the class seem favorable.

Theme: Females who did not participate in group exercise had a reason similar to males as to why they did not attend group exercise classes.

Females had a few reasons why they did not think group exercise classes were a place they would like to exercise. One female who did not participate in group exercise said, "I don't do group exercise because I don't do a lot of the skills that are required for groups exercise well.

I don't dance. I don't, um yeah. I trip over my own feet. I think I lack the appropriate coordination for that sort of thing.” One female who did not participate in group exercise stated that a lower level skill group exercise class may be a good place for her to start:

...I want like, depending on how the class was oriented, like if they had different skill levels like beginner where I'd look like an idiot, but everyone else would like an idiot too so I'd be okay. So, if I could go to that kind of a group I feel like I'd fit in there.

Similar to males, females did not want to look uncoordinated in front of peers. Regardless of gender, no one wanted to look incompetent in front of others.

Females, Males, and Perceived Control

Theme: Females had concerns about strength exercise.

Qualitative data from the present study indicated that females tend to stay away from strength exercise in the weight room because the weight room was perceived as a male domain. Females also felt like strength exercises were not something they could accomplish. One female group exercise participant stated, “I wanted to try like anything with weights...and I'm like ‘I'm not going to be able...’ and I don't know that for sure, just because I've never done it.” Another female had a similar comment: “...if it's something that is like out of my realm, like lifting weights, then I'm like ‘oh eh no.’” Instead, females suggested that group exercise classes were a better way to complete strength exercises in a more comfortable environment compared to the weight room. A female group exercise participant stated:

One of the main reasons I choose to go to group fitness classes is to get that strength aspect, because I can do cardio on my own. Right? Like I might not be motivated to do it, but like I'm capable and I know how. But, like, I'm sort of scared, I guess, of doing strength stuff on my own.

There was general agreement among focus group participants for this comment. This focus group participant went on to say she was not sure of the right amount of weight to lift and how to stretch accordingly. A female who did not participate in group exercise said that, “Girls feel self-conscious about strength oriented stuff, like ‘oh I can’t do that.’” These statements indicated that a lack of knowledge of strength exercise inhibits an individual’s ability to engage in an exercise behavior. This is similar to how males who did to participate in group exercise felt about group exercise. A lack of knowledge caused a lack of perceived control over the behavior, which resulted in not engaging in the behavior.

Theme: Females experienced perceived control for exercises other than strength.

Females said they felt successful with exercise when they felt accomplished at the end of their workout. This accomplished feeling related to being in a good mood after the workout, being stretched and feeling stronger, and having challenged their bodies. Females expressed their ability to feel in control of their exercise behaviors. When asked about what makes them feel successful in relation to exercise, one female group exercise participant said, “I think of success as not solely doing it perfectly, but getting a good workout.” Looking closer at what a “good workout” means, another female group exercise participant stated, “...it’s more important to mentally feel good about what you are doing first and foremost.” These sentiments of feeling like one had a good workout and having fun while exercising were echoed by the majority of other females.

Subtheme: Similar to females, males felt a sense of control while exercising.

Males had similar feelings about being in control of their exercise behaviors. In general, the act of attempting exercise was considered a success. Based on the previous themes discussed, males clearly felt a lack of control for group exercise. However, most males expressed an interest

in trying new exercise behaviors. Males stated they see value in trying exercises they do not feel comfortable doing. A male who did not participate in group exercise said,

I participate in [exercises] that I don't feel comfortable in. In addition to forcing me to come out of my comfort zone, it actually then helps in other facets of life...[I] don't mind being challenged because then like when I do well it's even better.

When it came to exercise success, males had similar thinking to females in what they consider exercise success. One male who did not participate in group exercise said,

I can't push as much weight as him, but I'm still in the gym, I'm not sitting at my computer playing you know video games right now, I'm actually putting an effort into my fitness, so that's a success right there.

Essentially, feelings of having a good workout and the sheer act of going to the gym were considered success in terms of exercise among both females and males.

Summary

This chapter ends with a summary of the quantitative findings and related qualitative findings (see Tables 9-14).

Table 9

Summary of Statistically Significant Quantitative Results with Related Qualitative Themes and Subthemes for Females and Subjective Norms

Quantitative Results	Qualitative Results
<p><i>Class Survey Quantitative Finding One: Females and Subjective Norms</i></p> <p>Females felt they had more support and approval from peers to engage in exercise compared to group exercise.***</p> <p><i>Focus Group Survey Quantitative Finding One: Females who did not participate in group exercise and subjective norms</i></p> <p>Females who did not participate in group exercise felt they had more support and approval from peers to engage in exercise compared to group exercise.*</p>	<p><i>Theme: Females who participated in group exercise decided to participate in group exercise regardless of peers.</i></p> <p><i>Theme: Females who did not participate in group exercise felt they had more support and approval from peers to engage in exercise compared to group exercise.</i></p>
<p><i>p</i>-value significance *Significance at alpha level of 0.05 ** Significance at alpha level of 0.01 *** Significance at alpha level of 0.001</p>	

Table 10

Summary of Statistically Significant Quantitative Results with Related Qualitative Themes and Subthemes for Females and Perceived Control

Quantitative Results	Qualitative Results
<p><i>Class Survey Quantitative Finding Two: Females and Perceived Control</i></p> <p>Females felt they had more control and less difficulty participating in exercise compared to group exercise.***</p>	<p><i>Theme:</i> Females tended to participate in exercise behaviors for which they felt comfortable.</p> <p><i>Theme:</i> Females who did not participate in group exercise experienced specific concerns relating to perceived control and group exercise.</p> <p><i>Subtheme:</i> Lack of comfort in the group exercise environment limited group exercise class participation among females who did not participate in group exercise.</p> <p><i>Subtheme:</i> Issues with making time to schedule a group exercise class prohibited group exercise class participation among females who did not participate in group exercise.</p>
<hr/> <p><i>p</i>-value significance *Significance at alpha level of 0.05 ** Significance at alpha level of 0.01 *** Significance at alpha level of 0.001</p>	

Table 11

Summary of Statistically Significant Quantitative Results with Related Qualitative Themes and Subthemes for Males and Subjective Norms

Quantitative Results	Qualitative Results
<p><i>Class Survey Quantitative Finding Three: Males and Subjective Norms</i></p> <p>Males felt they had more support and approval from peers to engage in exercise compared to group exercise.***</p> <p><i>Focus Group Survey Quantitative Finding Two: Males who do not participate in group exercise and subjective norms</i></p> <p>Males who did not participate in group exercise felt they had more support and approval from peers to engage in exercise compared to group exercise.***</p>	<p><i>Theme:</i> Males who did not participate in group exercise received support to engage in exercise.</p> <p><i>Subtheme:</i> Males who did not participate in group exercise might attend group exercise classes with the appropriate support.</p> <p><i>Theme:</i> Males who participated in group exercise experienced disapproval or indifference for their group exercise participation.</p>
<hr/> <p><i>p</i>-value significance *Significance at alpha level of 0.05 ** Significance at alpha level of 0.01 *** Significance at alpha level of 0.001</p>	

Table 12

Summary of Statistically Significant Quantitative Results with Related Qualitative Themes and Subthemes for Males and Perceived Control

Quantitative Results	Qualitative Results
<p><i>Class Survey Quantitative Finding Four: Males and Perceived Control</i></p> <p>Males felt they had more control and less difficulty participating in exercise compared to group exercise.***</p> <p><i>Focus Group Survey Quantitative Finding Three: Males who did not participate in group exercise and perceived control</i></p> <p>Males who did not participate in group exercise felt they had more control and less difficulty participating in exercise compared to group exercise.*</p>	<p><i>Theme: Males who did and did not participate in group exercise experienced specific concerns relating to perceived control and group exercise.</i></p> <p><i>Subtheme: Lack of comfort in the group exercise environment limited group exercise class participation among males who did not participate in group exercise.</i></p> <p><i>Subtheme: Issues with making time to schedule a group exercise class prohibited group exercise class participation among males who did not participate in group exercise.</i></p>

p-value significance

*Significance at alpha level of 0.05

** Significance at alpha level of 0.01

*** Significance at alpha level of 0.001

Table 13

Summary of Statistically Significant Quantitative Results with Related Qualitative Themes and Subthemes for Females, Males, and Subjective Norms

Quantitative Results	Qualitative Results
<p><i>Class Survey Quantitative Finding Five: Males, Females, and Subjective Norms</i></p> <p>Males felt they had more support and approval from peers to engage in exercise compared to group exercise.*</p> <p>-----</p> <p><i>Focus Group Survey Quantitative Finding Four: Males, Females, and Subjective Norms</i></p> <p>Males who did not participate in group exercise had significantly less support and approval from peers to engage in group exercise compared to females who participated in group exercise, females who did not participate in group exercise, and males who participated in group exercise.***</p>	<p><i>Theme:</i> There were differences in what males preferred and what females preferred in terms of exercise behaviors.</p> <p><i>Subtheme:</i> Societal norms influenced exercise goals and subsequent behaviors.</p> <p><i>Subtheme:</i> Peers influenced males' exercise behaviors.</p> <p><i>Theme:</i> Males who participated in group exercise still participated despite norms.</p> <p><i>Subtheme:</i> Males who participated in group exercise moved beyond peers' comments.</p> <p><i>Subtheme:</i> Males who participated in group exercise classes motivated their peers to attend group exercise classes.</p> <p><i>Theme:</i> Females who did not participate in group exercise felt more inclined to attend group exercise classes with peer support.</p> <p><i>Theme:</i> Females who did not participate in group exercise had a reason similar to males as to why they did not attend group exercise classes.</p>

p-value significance

*Significance at alpha level of 0.05

** Significance at alpha level of 0.01

*** Significance at alpha level of 0.001

Table 14

Summary of Statistically Significant Quantitative Results with Related Qualitative Themes and Subthemes for Females, Males, and Perceived Control

Quantitative Results	Qualitative Results
<p><i>Class Survey Quantitative Finding Six: Males, Females, and Perceived Control</i></p> <p>Females felt less control and had more difficulty exercising compared to males.**</p>	<p><i>Theme:</i> Females had concerns about strength exercise.</p> <p><i>Theme:</i> Females experienced perceived control for exercises other than strength.</p> <p><i>Subtheme:</i> Similar to females, males felt a sense of control while exercising.</p>
<p><i>p</i>-value significance</p> <p>*Significance at alpha level of 0.05</p> <p>** Significance at alpha level of 0.01</p> <p>*** Significance at alpha level of 0.001</p>	

Chapter Five: Discussion

This chapter briefly reviewed the results of the present study and addressed how these results related to previous literature. Research implications were also discussed for each construct of the Theory of Planned Behavior. Limitations of the present study and potential future studies were also discussed.

Primary Results and Comparison to Literature: Attitude

Attitude was the only construct of the TPB that did not triangulate with qualitative data or the literature. Quantitative results indicated that attitude was not significantly different for exercise and group exercise within and between females and males. Attitude, the first construct of the TPB, seemed to have no significant meaning among females and males regarding exercise and group exercise. Females' attitudes for exercise and group exercise did not vary nor did males' attitudes. Also, there was not a significant difference in attitudes for exercise and group exercise between males and females. There was no significant difference in attitude regarding exercise among females and males who did and did not participate in group exercise. Likewise, whether female or male group exercise participant or non-participant, both exercise and group exercise were viewed as important. Females and males who did not participate in group exercise said they did not have an interest in participating, but still viewed group exercise as important.

From the qualitative data, it can be reasoned that there was a general knowledge that exercise in any form is important. Thus, females and males have a positive attitude toward any type of exercise. However, females and males had exercise preferences.

Although the quantitative results were not significant, qualitative results of the present study were similar to information found in the literature. Popular media suggested that males have a negative attitude about group exercise, as they experienced feelings of self-consciousness,

intimidation, and awkwardness in group exercise classes (Horton, 2010; Antrim, 2005). In the present study, most males who did not participate in group exercise and some females who did not participate in group exercise said they did not like choreographed dancing completed in group exercise class. Their reason was that they claimed to lack coordination to follow the choreography. Popular media suggested that not being coordinated makes males, in particular, appear incompetent, especially in front of females (Freytag, 2008; Myers Smith, 2006).

Unfortunately, a lack of literature in the area of exercise and group exercise attitude relating to gender made comparison to the present study impossible. Although not a substitute for scholarly literature, comparisons were made to popular media. Despite attitude not being significantly different among females and males for exercise and group exercise in survey data, the qualitative results of the present study are comparable to the literature for males (Antrim, 2005; Horton, 2010). Attitudes about group exercise of females who did not participate in group exercise attitudes were not established in previous literature or popular media.

Research implications.

The university population in the present study had a favorable attitude toward the importance of exercise and group exercise. It is likely that messages from popular media, the government, school systems, and families, all influence formation of exercise attitude. In order to keep a positive attitude toward exercise, these messages need to keep promoting the value of engaging in exercise for optimal health. Although females and males in the present study had favorable attitudes toward exercise and group exercise, this attitude does not translate to engaging in all exercise behaviors. Focus group participants suggested free trials and demonstrations of exercise equipment and classes as well as incentives like free food and money would motivate them to try a new exercise activity.

Primary Results and Comparison to Literature: Subjective Norms

Subjective norms, the second construct of the TPB, were significant for exercise and group exercise among females and males in the present study. Both females and males felt like they had more peer support and approval to engage in exercise compared to group exercise. More specifically, females who did not participate in group exercise and males who did not participate in group exercise lacked peer support to engage in group exercise classes. However, for females who participated in group exercise and males who participated in group exercise, peer support was not needed to engage in either exercise or group exercise. Interestingly, males experienced less peer support and approval to engage in group exercise compared to females. Males said that with more peer support, they would consider participating in group exercise.

Through an extensive literature search, no studies were found similar to this study in regards to comparing exercise and group exercise; however, subjective norms and health behavior have been well studied. One common finding in the literature was that subjective norms appear to have a strong influence on health behaviors (Robinson, Robertson, McCullagh, & Hacking, 2010; Nelson, Kocos, Lytle, & Perry, 2009). Males elected not to engage in certain health behaviors because caring for one's health was not considered masculine (Robinson, Robertson, McCullagh, & Hacking, 2010). Furthermore, research shows that males did not engage in certain exercise behaviors due to lack of peer support (Nelson, Kocos, Lytle, & Perry, 2009). In the present study, most males chose not to participate in group exercise classes because it was considered a feminine behavior. However, males also said they would participate in group exercise classes with peer support. The findings of the present study match well with the literature.

Another finding from the present study is that males who did not participate in group exercise felt like the group exercise classes environment did not allow them to work on their fitness goals. This result supports Johansson's (1996) research on "gendered spaces." Males who wanted muscular bodies went to the weight room to lift weights where other males were lifting weights, not a group exercise class.

Other studies also support that males and females engage in particular exercise behaviors (Keating, Guan, Pinero, & Bridges, 2005; Ransdell, Vener, & Sell, 2004; Simpson, et al., 2003). A meta-analysis of studies of physical activity preferences based on gender found that college males preferred sports and strength activities where as college females prefer aerobics, dance, and yoga (Keating, Guan, Pinero, & Bridges, 2005). Research on adult United States population found that males tend to participate in weight lifting and golf. In contrast, females participate in aerobics (group exercise) and bicycling (Simpson, et al., 2003). In a similar study completed in Australia, males preferred golf, cycling, and running. Females, on the other hand, engaged in aerobics (group exercise), tennis, and netball (Active Australia as cited in Ransdell, Vener, & Sell, 2004). Riemer and Visio (2003) had comparable findings. Gymnastics and aerobics (group exercise) were feminine activities while football and wrestling were masculine activities. This notion of "gendered spaces," subjective norms, and expectations of society influenced this gender divide in exercise behaviors.

Results of the present study were also similar to another study by Burke, Carron, and Eys (2006), who examined exercise context, rather than actual activities. They found that college males prefer exercising with someone or alone, but not in a group exercise class setting. College females preferred exercising with someone or in a class setting over exercising alone. Qualitative results of the present study found that females who did not participate in group exercise preferred

exercising with a friend or alone because they needed a flexible workout time. Also, males who engaged in group exercise classes preferred a group exercise class setting because they like the collaborative group effort and support.

Research implications.

Females and males have exercise behavior tendencies, which closely relate to peer influence and what is considered normative behaviors. Fitness facilities and other exercise resources should keep this in mind when trying to attract new members and participants. Promotional events like bring a friend for free to try a group exercise class or to a gym could attract more of the population to engage in exercise behaviors. Focus group participants in the present study had mixed success with bringing a peer to exercise with them. Some focus group participants were able to convince peers to come and these peers still exercise together today. Other participants said that although they were able to get their peers to try exercise, they did not like the exercise type or thought it was too difficult to continue. Regardless, according to the findings in the present study, peers have the ability to influence exercise behavior.

Focus group participants also brought up the idea of visibility in an exercise facility. If certain types of exercise (e.g., group exercise classes or the weight room) were more visible, participants suggested that more people may be willing to try the exercise. Exercise facilities may want to keep this in mind when deciding how to build their exercise space or organize their exercise equipment. More visibility may lead to more usage.

Primary Results and Comparison to Literature: Perceived Control

Perceived control, the third construct of the TPB, showed significant results among females and males. Both females and males felt like they have more control and less difficulty engaging in exercise compared to group exercise. Reasons for this included a lack of comfort or

feelings of not fitting in at a group exercise class. Females, compared to males, experienced less control and more difficulty exercising, which seemed to come from females' concerns with performing strength exercises.

From the present study, it can be determined that perceived control related to comfort in performing an exercise behavior. An individual who feels comfortable doing a particular exercise behavior feels more in control of the behavior. In trying a new behavior, whether it is attending to a group exercise class for the first time or going to a different class than normal, an individual felt a lack of control. This lack of control stemmed from not being able to complete exercises effectively and efficiently, especially if occurring in front of other people. Research supports this finding. For example, college students felt overwhelmed to use their schools' recreation facility, which prevented them from using the facility (Nelson, Kocos, Lytle, & Perry, 2009). Another study suggested that a lack of confidence prevented students from using their campus recreation facility (Omar-Fauzee, Yusof, & Zizzi, 2009). Putting this idea into the framework of the Theory of Planned Behavior, students in these situations lacked perceived control, which prevented the health behavior of exercise.

The results of the present study found that males who participated in group exercise recognized males who did not participate in group exercise as misinformed about what group exercise entails. Not knowing what a group exercise class consisted of lead to the judgment that group exercise classes were not challenging and considered a feminine activity. A study by Davies, et al., (2000), found similar result in that lack of information was a barrier to engaging in a health behavior.

In the present study, males who did not participate in group exercise classes seemed to lack the knowledge of what group exercise classes entail and if they even could attend classes

because they were males. As already stated, group exercise classes have changed since their inception from aerobic dance classes to gender-neutral classes like cycling, boot camp, and yoga (Schroeder, 2008). In the present study, males who did not participate in group exercise classes said classes were feminine. This indicated a lack of information or misinformation as males cited dance, yoga, Pilates, and cycling as classes with which they were familiar. Males were not aware of strength classes, boot camp, and sports based interval classes. Davies, et al., (2000) found lack of knowledge and misinformation to be barriers to health behaviors. The present study had similar findings. Regarding both of these areas, males who did not participate in group exercise said that group exercise was a feminine behavior that did not relate to their fitness goals.

However, males who did participate in group exercise, said class workouts were challenging and help them accomplish their fitness goals. Despite having to handle some teasing from peers, they continued to come to classes. Males who did not participate in group exercise classes said they felt vulnerable in what they perceived as a feminine domain in a group exercise class. Males who did not participate in group exercise also stated that they would not be good at performing exercises completed in a group exercise class, which may also lead to feelings of vulnerability or lack of perceived control. Interestingly, with adequate information about group exercise entails, males who participated in group exercise classes were able to engage in group exercise.

Research implications.

Gym facilities may want to advertise their classes specifically towards men to attract them to group exercise classes. From the aforementioned results, it did appear that males' views of masculinity and what is considered a masculine behavior influenced their exercise choice. With appropriate advertising, males would gain knowledge and information about group exercise classes. Fitness professionals could also set up demonstrations of exercises could as a way to

provide information to people without them actually engaging in the behavior. With gender-neutral classes being offered, males would feel less vulnerable to engage in classes. That being said, advertising and class offerings do not necessarily mean males will attend classes, especially when feminine and masculine norms are deeply rooted in society.

Limitations

Limitations in the present study involved survey design, sample used, and data analysis. Regarding survey design, a few survey questions could be changed or added to enhance the present study. A modified question should be added directly asking about exercise and group exercise participation. In the present study, two questions were asked about prospective exercise and group exercise participation in the next two weeks. In addition to this question, it would have been helpful to know past and current exercise and group exercise participation. Another question asked about how many minutes of exercise the individual participates in during an average week. Some individuals who filled out the survey had a difficult time calculating their minutes of exercise. Instead a multiple choice answer of time ranges in hours might be a better option.

Another limitation was that survey and focus group participants were from the researcher's university, making all participants a convenience sample. Also, survey and focus group participants elected to participate in this research. Thus, the sample may be biased to include people who had an interest in filling out a survey or participating in a focus group about exercise. Another limitation with the sample included a small number of focus group participants. A larger sample would have provided a larger breadth of qualitative information. Lastly, the sample in the present study included only undergraduates and graduate students. Results of this study did not represent the general population. Furthermore, a reason for less peer

support and less control to engage in group exercise among females and males who participated in the survey could relate to fewer undergraduates and graduates students having participated in group exercise classes. It could be that undergraduates and graduate students not having experienced group exercise classes as much as the general population. As a result, they felt less peer support and less control to engage in a group exercise class because they have not experienced group exercise classes. This factor may have influenced results of the present study.

Finally, analysis could be a limitation. In the present study, deductive analysis was used to construct qualitative themes. Thus, all themes related to the Theory of Planned Behavior (TPB) constructs. This analysis was completed intentionally as all focus group questions related directly to the TPB. The reason for this was to determine if the TPB was an appropriate theory for examining gender and exercise behaviors. It may be useful to run an inductive analysis completely separate for the TPB to determine if other factors are involved in gender and exercise behaviors.

Bias.

A potential bias involved in the present study come from the researcher who conducted the present study. As a group exercise instructor at Campus Recreation, the researcher worked directly with some of the participants in the present study. Group exercise is clearly important to the researcher, although the researcher understood that not everyone likes all types of exercise. Most researchers study topics that are important to them. This bias is inherent as every researcher views situations from past experiences. Therefore, the goal was to acknowledge and minimize bias. In the present study, the researcher did not know if any TPB construct would relate to gender differences, or if there would even be gender differences of statistical significance. This helped the researcher keep an open mind and be accepting to the data. To further prevent bias,

the researcher used member checking, where focus group participants read through their group's transcript to check for accuracy. Another way to minimize bias is through naturalistic inquiry. Research should be non-obtrusive. For example, some people prefer exercising alone or listening to their own music. Again, the researcher was not trying to push group exercise on anyone if it is not their favored type of exercise. The purpose of the study was to gain an understanding of why student participate or not participate in certain exercise behaviors. Thus, the researcher did not ask loaded questions, like "how could you *not* like group exercise?"

A benefit of being closely connected to the fitness industry, the researcher knew about this area of research and acted as "an insider" who had a keen understanding and awareness regarding the topic of study. An outside researcher might not examine the situation with the depth and breath that the inside researcher used. In Patton's (2002) framework, being personally engaged and interacting with the persons of interest is important in qualitative research. It provides a greater depth of knowledge and understanding regarding the persons of interest. This needs to be balanced with "empathetic neutrality and mindfulness" (Patton, 2002), which involves awareness of and respect for the person's of interest. The researcher in the present study kept this idea in mind during the present study.

Masculinity and femininity were very important contexts to establish for this study. For this reason, all focus group participants were asked if there were or were not inherent gender differences between males and females. They were also asked how males and females were the same and how were they different. Consistently across all focus groups, males were perceived as stronger and less emotional than females. Focus group participants also said that while these gender differences were not necessarily true, they were relatively consistent among males and females. It was important to keep the focus group participants' understanding of gender

differences in mind while results of the present study were viewed as it provided a context for the data and results.

Future Studies

There are a variety of options for future studies relating to the present study. The same survey and focus group methodology from the present study could be completed in another Midwestern university or another university in the United States. Results from the present study could be compared. With a larger sample size, further comparisons could be looked at based on race, degree level, and exercise experience. The study could also be completed at various exercise facilities, such as community fitness centers, small chain gyms, and large chain gyms. Different age groups (e.g., school age children, adults, older adults) could also be examined.

Future studies could also look at the connection between behavior intention and actual behavioral outcomes by adding an intervention component. For example, males who did not engage in group exercise stated that they knew yoga was good for them, but it did not fit with their current fitness goals. The TPB constructs could be measured followed by an intervention, such as a yoga class. After the intervention, the TPB constructs would be measured again. After time has passed, three months after the intervention as an example, researchers would re-measure participants on the TPB constructs and find out if they are currently participating in a yoga class. This study scenario has a variety of options and would be a good way to measure the TPB constructs over time.

Summary

The purpose of the present study was to examine gender and exercise behaviors among undergraduate and graduate students using the Theory of Planned Behavior as a framework. Upon identification of statistically significant results from quantitative survey data, the

qualitative data from the present study sought to provide in-depth detail to the quantitative results. For both females and males, exercise and group exercise behavior were not influenced significantly by attitude about the behaviors. Subjective norms did influence exercise and group exercise behaviors, most notably among males who did not participate in group exercise. Perceived control also influenced exercise behavior, but not group exercise behavior among females. The Theory of Planned Behavior was very useful as a framework to examine gender and exercise behaviors as it allowed for the in-depth examination of attitude, norms, and perceived control relating to exercise.

By having a clear understanding of reasons for gender differences in exercise and group exercise, reasons can be addressed and adjustments can be made to exercise and group exercise programming to attract a more gender balanced composition. In the present study, subjective norms and perceived control showed significance with gender. Relating to subjective norms, peer influence was found to be especially important among males. To increase male participation in group exercise classes, male focus group participants in the present study suggested that exercise facilities have a “bring a friend for free” class promotion or have a males only class. Regarding perceived control, females felt a lack of perceived control with exercise. To help females feel more in control of exercise, having demonstrations of exercise equipment may be useful. This could include having other females demonstrate how to use free weights, which female focus group participants expressed as an area they lack control. Having more gender balanced exercise behaviors means more people will be engaging in exercises that once we thought to not be appropriate for a particular gender. Engaging in any type of exercise has public health benefits. Since gender appears to be a factor in exercise preferences, it should be considered when promoting exercise behaviors.

References

- Aerobics. (2010). *Columbia Electronic Encyclopedia, 6th Edition*, 1. Retrieved from EBSCOhost.
- Ajzen, I. (2010). Icek Ajzen. Retrieved from <http://www.people.umass.edu/aizen/faq.html> on September 23, 2010.
- American College Health Association. (2009). American College Health Association National College Health Assessment Spring 2008. *Journal of American College Health*, 57, 477-488.
- Annesi, J. J. (2001). Reducing attrition with group exercise. *Fitness Management*. Retrieved on April 17, 2009 from <http://www.fitnessworld.com/articles/default.aspx?a=1009&template=print-article.htm>
- Antrim, T. (2005). Gym owners try to coax men into fitness classes. *New York Times*. Retrieved on January 13, 2011 from <http://webcache.googleusercontent.com/search?q=cache:Vt26RY9PcdUJ:www.freerepublic.com/focus/news/1420080/posts+men+and+group+fitness&cd=47&hl=en&ct=clnk&gl=us>
- Armitage, C. J. & Christian, J. (2004). *Planned behavior: The relationship between human thought and action*. Transaction Publications: New Brunswick, NJ.
- Bauman, A. E. (2003). Updating the evidence that physical activity is good for health: An epidemiological review 2002-2003. *Journal of Science and Medicine in Sport*, 7, 6-19.
- Biddle, S. J. H. & Mutrie, N. (2008). *Psychology of physical activity* (2nd ed.). New York, NY: Routledge.

- Blanchard, C. M., Kupperman, J., Sparling, P., Nehl, E., Rhodes, R. E., Courneya, K. S., Baker, F., Hunt, T. (2007). Ethnicity as a moderator of the theory of planned behavior and physical activity in college students. *Research Quarterly for Exercise and Sport*, 78, 531-541.
- Block, L.S. (Producer & Director). (1991). *Fit: Episodes in the history of the body* [VHS]. United States: Straight Ahead Pictures.
- Brehm, B. A. (2003). Group exercise: Good teaching enhances adherence. *Fitness Management*. Retrieved on April 17, 2009 from <http://www.fitnessworld.com/articles/default.aspx?a=1326&template=print-article.htm>
- Brown, J. & Graham, D. (2008). Body satisfaction in gym-active males: An exploration of sexuality, gender, and narcissism. *Sex Roles*, 59, 94-106.
- Bryan, A. D. & Rocheleau, C. A. (2002). Predicting aerobic versus resistance exercise using the theory of planned behavior. *American Journal of Health Behavior*, 26, 83-94.
- Buckworth, J. & Nigg, C. (2004). Physical activity, exercise and sedentary behavior in college students. *Journal of American College Health*, 53, 28-34.
- Burke, S. M., Carron, A. V., & Eys, M. A. (2006). Physical activity context: Preferences of university students. *Psychology of Sport and Exercise*, 7, 1-13.
- Burke, S. M., Carron, A. V., Patterson, M. M., Estabrooks, P. A., Hill, J. L., Loughead, T. M., Rosenkranz, S. R., & Spink, K. S. (2005). Cohesion as shared beliefs in exercise classes. *Small Group Research*, 36, 267.
- Centers for Disease Control and Prevention. (2010). How much physical activity do adults need? Retrieved on January 31, 2011 from <http://www.cdc.gov/physicalactivity/everyone/guidelines/adults.html>

- Centers for Disease Control and Prevention. (2010). Physical activity and health: The benefits of physical activity. Retrieved on January 31, 2011 from <http://www.cdc.gov/physicalactivity/everyone/health/index.html>
- Centers for Disease Control and Prevention. (2010). Physical activity for everyone: Glossary of terms. Retrieved on January 31, 2011 from <http://www.cdc.gov/physicalactivity/everyone/glossary/index.html>
- Chatzisarantis, N. L. D., Hagger, M. S., Biddle, S. J. H., & Smith, B. (2005). The stability of the attitude-intention relationship in the context of physical activity. *Journal of Sports Sciences, 23*, 49-61.
- Colorado State University (2011). Conceptual analysis. Retrieved on April 6, 2011 from <http://writing.colostate.edu/guides/research/content/com2b1.cfm>
- Courtenay, W. H. (2000). Constructions of masculinity and their influence on men's well-being: A theory of gender and health. *Social Science & Medicine, 50*, 1385-1401.
- Courtenay, W. H. (2000). Engendering health: A social constructionist examination of men's health beliefs and behaviors. *Psychology of Men and Masculinity, 1*, 4-15.
- Davies, J., McCrae, B. P., Frank, J., Dochnahl, A., Pickering, T., Harrison, B., Zakrzewski, M., & Wilson, K. (2000). Identifying male college students' perceived health needs, barriers to seeking help, and recommendations to help men adopt healthier lifestyles. *Journal of American College Health, 48*, 259-267.
- Dolan, S. (2008). Benefits of group exercise. *ACSM Fit Society, 4*.
- Epstein, L. H. & Roemmich, J. N. (2001). Reducing sedentary behavior: Role in modifying physical activity. *Exercise and Sport Sciences Reviews, 29*, 103-108.

- Fishwick, L. & Hayes, D. (1989). Sport for whom? Differential participation patterns of recreational athletes in leisure time physical activities. *Sociology of Sport Journal*, 6, 269-277.
- Flegal, K. M., Carroll, M. D., Ogden, C. L., Curtin, L.R. (2010). Prevalence and trends in obesity among U.S. adults, 1999-2008. *Journal of the American Medical Association*, 303, 235-241.
- Freytag, C. (2008). Bring on the men: How to attract more men to your group fitness programs. *American Council on Exercise (ACE) Certified News*, 14, 3-5.
- Galdas, P. M., Cheater, F., & Marshall, P. (2005). Men and health help-seeking behavior: Literature review. *Journal of Advanced Nursing*, 49, 616-623.
- Garfield, C. F., Isacco, A., & Rogers, T. E. (2008). A review of men's health and masculinity. *American Journal of Lifestyle Medicine*, 2, 474-487.
- Gill, D. L. & Kamphoff, C. S. (2010). Gender in sport and exercise psychology. In J. C. Chrisler & D. R., McCreary (Eds.), *Handbook of Gender Research in Psychology* (563-585). New York, NY: Springer Publishing.
- Harring, H. A., Montgomery, K., Hardin, J. (2010). Perceptions of body weight, weight management strategies, and depressive symptoms among U.S. college students. *Journal of American College Health*, 59, 43-50.
- Hildebrand, K. M. & Johnson, D. J. (2001). Determinants of college physical activity class enrollment: implication for high school physical educations. *Physical Education*, 58, 51-56.

- Hoffman, D. J., Policastro, P., Quick, V., & Lee, S. (2006). Changes in body weight and fat mass of men and females in the first year of college: A study of the "Freshman 15." *Journal of American College Health, 55*, 41-45.
- Horton, J. (2010). Gym intimidation: Men in an all females' group fitness class. Retrieved on January 13, 2011 from http://www.associatedcontent.com/article/5500854/men_intimidated_by_all_females_group.html?cat=50
- Huang, T. K., Harris, K. J., Lee, R. E., Nazir, N., Born, W., & Kaur, H. (2003). Assessing overweight, obesity, diet, and physical activity in college students. *Journal of American College Health, 53*, 83-86.
- International Dance and Exercise Association (2010). Retrieved on January 14, 2011 from http://www.ideafit.com//files/IFM_July_August_2010_lo_final.pdf
- International Health, Racquet, and Sportsclub Association. (2009) *IHRSA health club consumer report*. Retrieved on January 26, 2010 from <http://www.ihrsastore.com/p-3886-ihrsa-2009-consumer-report-health-club-activity-usage-trends-analysis-pdf.aspx>
- Jick, T. D. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly, 24*, 602-611.
- Johansson, T. (1996). Gendered spaces: The gym culture and the construction of gender. *Young, 4*, 32-47.
- Keating, X. D., Guan, J., Pinero, J. C., & Bridges, D. M. (2005). A meta-analysis of college student' physical activity behaviors. *Journal of American College Health, 54*, 116-125.
- Kennedy-Armbruster, C. & Yoke, M. M. (2009). *Methods of group exercise instruction (2nd ed.)* Champaign, IL: Human Kinetics.

- Kilpatrick, M., Hebert, E., & Bartholomew, J. (2005). College students' motivation for physical activity: Differentiating men's and women's motives for sport participation and exercise. *Journal of American College Health, 54*, 87-94.
- Krueger, R. A. & Casey, M. A. (2000). *Focus groups: A practical guide for applied research* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Kwan, M. Y. W., Bray, S. R., Martin Ginis, K. A. (2009). Predicting physical activity of first-year university students: An application of the theory of planned behavior. *Journal of American College Health, 58*, 45-52.
- Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications, Inc.
- Longfield, A., Romas, J., & Irwin, J. D. (2006). The self-worth, physical and social activities of graduate students: A qualitative study. *College Student Journal, 40*, 282-292.
- Mahalik, J. R., Burns, S. M., & Syzdek, M. (2007). Masculinity and perceived normative health behaviors as predictors of men's health behaviors. *Social Science & Medicine, 64*, 2201-2209.
- McLean-Meynsse, P. E., Gager, J. V., & Cole, D. N. (2010). An empirical analysis of college students' perception of their health and weight status. *Journal of Food Distribution and Research, 41*, 75-80.
- Mertens, D. M. (2003). Mixed methods and politics of human research: The transformative-emancipatory perspective. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioral research* (pp. 135-164). Thousand Oaks, CA: Sage.
- Miller, K. H., Noland, M., Rayens, M. K., & Staten, R. (2008). Characteristics of users and nonusers of a campus recreation center. *Recreational Sports, 32*, 87-96.

- Mowatt, M. M., DePauw, K. P., & Hulac, G. M. (1988). Attitudes toward physical activity among college students. *The Physical Educator, 45*, 103-108.
- Myers Smith, C. (2006). Oh man! International Dance and exercise Association Fitness Journal. Retrieved on January 13, 2011 from <http://www.ideafit.com/fitness-library/oh-man>
- Nathan-Gardner, L. (2010). Five workout classes for guys. *The University of Texas MD Anderson Cancer Center Focused on Health*. Retrieved on January 13, 2011 from <http://www.mdanderson.org/publications/focused-on-health/issues/2010-september/forguys.html>
- National College Health Assessment (2010). University at Buffalo Executive Summary. Retrieved on February 2, 2011 from <http://www.student-health.buffalo.edu/wes/10nchap.pdf>
- Nelson, M. C., Kocos, R., Lytle, L. A., & Perry, C. L. (2009). Understanding the perceived determinants of weight-related behavior in late adolescence: A qualitative analysis among college youth. *Journal of Nutrition Education and Behavior, 41*, 287-291.
- Nelson, M. C., Lust, K., Story, M., & Ehlinger, E. (2009). Alcohol use, eating patterns, and weight behaviors in a university population. *American Journal of Health Behavior, 33*, 227-237.
- Norman, P. & Conner, M. (2005). The theory of planned behavior and exercise: Evidence for mediating and moderating roles of planning on intention-behavior relationships. *Journal of Sport & Exercise Psychology, 27*, 488-504.
- Omar-Fauzee, M. S., Yusof, A., & Zizzi, S. (2009). College students' attitude towards the utilization of the sports recreation center (SRC). *European Journal of Social Sciences, 7*, 27-41.

- Ozdemir, R. A., Celik, O., & Asci, F. H. (2010). Exercise interventions and their effects on physical self-perceptions of male university students. *International Journal of Psychology, 45*, 174-181.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Price, A. E. & James, D. C. S. (2006, April). *Physical activity among graduate students preparing for health-related careers versus those in other fields of study*. Poster session presented at the AAHPERD National Convention and Exposition.
- Ransdell, L. B., Vener, J. M., & Sell, K. (2004). International perspectives: The influence of gender on lifetime physical activity participation. *The Journal of The Royal Society for the Promotion of Health, 124*, 12-14.
- Riemer, B. A. & Visio, M. E. (2003). Gender typing of sports: An investigation of Metheny's Classification. *Research Quarterly for Exercise and Sport, 74*, 193-204.
- Rhodes, R.E., Courtneya, K.S., & Jones, L.W. (2003). Translating exercise intentions into behavior: Personality and social cognitive correlates. *Journal of Health Psychology, 8*, 447-458.
- Robinson, M., Robertson, S., McCullagh, J., & Hacking, S. (2010). Working towards men's health: Findings from the Sefton men's health project. *Health Education Journal, 69*, 139-149.
- Schmalz, D. L. & Kerstetter, D. L. (2006). Girlie girls and manly men: Children's stigma consciousness of gender in sports and physical activities. *Journal of Leisure and Research, 38*, 536-557.

- Schroeder, J. (2008). Evolution of group exercise: Where have we been and where are we headed. *American College of Sports Medicine Fit Society Page*, 1.
- Simpson, M. E., Serdula, M., Galuska, D. A., Gillespie, C., Donehoo, R., Macera, C., & Mack, K. (2003). Walking trends among US Adults: The BRFSS, 1987-2000. *American Journal of Preventive Medicine*, 25(2), 95-100.
- Sloan, C., Gough, B., & Conner, M. (2009). Healthy masculinities? How ostensibly healthy men talk about lifestyle, health, and gender. *Psychology and Health*, 25, 783-803.
- Spiker, T. (2003). A kick in the class. *Men's Health*. Retrieved on January 13, 2011 from <http://www.menshealth.com/fitness/types-fitness-classes>
- Stemler, S. (2004). A comparison of consensus, consistency, and measurement approaches to estimating inter-rater reliability. *Practical Assessment, Research, & Evaluation*, 9.
- Stemler, S. (2001). An overview of content analysis. *Practical Assessment, Research, & Evaluation*, 7.
- Thompson, D. (2008). Benefits of group exercise. *American College of Sports Medicine Fit Society Page*, 1.
- Tucker, P. & Irwin, J. D. (2009). University students' satisfaction with, interest in improving, and receptivity to attending programs aimed at health and well-being. *Health Promotion Practice*. Retrieved on January 28, 2011 from hpp.sagepub.com.
- Wharton, C. M., Adams, T., & Hampl, J. S. (2008). Weight loss practices and body weight perceptions among U.S. college students. *Journal of American College Health*, 56, 579-584.

Zhang, Y. & Wildemuth, B. M. (2009). Qualitative analysis of content. In B. Wildemuth (Ed.), *Application of Social Research Methods to Questions in Information and Library Science*. Retrieved on April 6, 2011 from <http://www.ils.unc.edu/~yanz/publication.html>

Appendix A: Demographic Sheet

1) Gender

Female..... 1

Male..... 2

2) Current age in years: _____ years

3) Race

Asian..... 1

African American or Black..... 2

Hispanic..... 3

Native American..... 4

Pacific Islander..... 5

White..... 6

Other (Explain):_____ 7

4) Highest level of education (circle)

Some undergraduate..... 1

Undergraduate..... 2

Some graduate..... 3

Graduate..... 4

5) Current program of enrollment as a student: (no abbreviations please)

6) Current degree you are working towards (circle)

Bachelors.....	1
Masters.....	2
PhD/EdD/ScD.....	3
Professional degress (JD/MD/DVM).....	4
Other: _____	5

7) Martial status

Single.....	1
In a committed relationship.....	2
Married.....	3
Separated.....	4
Divorced.....	5
Widowed.....	6

8) Frequency of exercise _____ **minutes per week**

9) Intensity of exercise

Moderate.....	1
Vigorous.....	2
Combination of moderate and vigorous.....	3

10) Number of **hours** you work **per week**

0.....	1
>0-10.....	2
>10-20.....	3
>20-30.....	4
>30-40.....	5
>40.....	6

Appendix B: Gender and Exercise Focus Group Questions

- I. Do you think there are *or* are not inherent gender differences between men and females?
 - a. If yes, what are the differences?
 - b. If no, what are the similarities?
- II. Questions relating to the Theory of Planned Behavior:
 - a. Attitude
 - i. How important is exercising to you? How important is group exercise to you?
 - ii. What were/are your attitudes about group exercise classes? (e.g., favorable or unfavorable)
 - iii. Which group exercise classes do you view as feminine, masculine, and neutral? Why?
 - b. Subjective norms
 - i. How do your peers influence your desire to exercise? How do your peers influence your desire to utilize group exercise classes?
 - ii. Do you feel as though you “fit in” at the gym/exercise facility? Do you feel as though you “fit in” at group exercise classes? Why or why not?
 - c. Perceived behavioral control
 - i. Do you think you exercise with success? Do you think you are/can be part of a group exercise class with success? How?
 - ii. What factors influence you perception of success? What does success look like to you?

III. Questions that address why or why not a person would engage in a group exercise class

- a. Do you only participate in activities you feel comfortable participating in/activities you are good at?
- b. How does the class (format, day/time, and instructor) influence your intention to engage in a group exercise class?
- c. Would an incentive or reward motivate you to attend group exercise classes on a regular basis? What would that incentive or reward be?
- d. Could any changes be made to the physical environment of a group exercise class that would influence your intention to attend group exercise classes on a regular basis?
- e. What other changes could be made to encourage people to utilize group exercise?

Appendix C: Survey

In making your ratings, please remember the following points:

* Be sure to answer all items – do not omit any.

* Never circle more than one number on a single scale

Part I: Use the following scale

1 extremely	2 quite	3 slightly	4 neither	5 slightly	6 quite	7 extremely
----------------	------------	---------------	--------------	---------------	------------	----------------

A) Exercise is:

Useless	1	2	3	4	5	6	7	Useful
---------	---	---	---	---	---	---	---	--------

Foolish	1	2	3	4	5	6	7	Wise
---------	---	---	---	---	---	---	---	------

Harmful	1	2	3	4	5	6	7	Beneficial
---------	---	---	---	---	---	---	---	------------

Unenjoyable	1	2	3	4	5	6	7	Enjoyable
-------------	---	---	---	---	---	---	---	-----------

Unpleasant	1	2	3	4	5	6	7	Pleasant
------------	---	---	---	---	---	---	---	----------

Boring	1	2	3	4	5	6	7	Interesting
--------	---	---	---	---	---	---	---	-------------

Stressful	1	2	3	4	5	6	7	Relaxing
-----------	---	---	---	---	---	---	---	----------

B) Group Exercise is:

Useless	1	2	3	4	5	6	7	Useful
---------	---	---	---	---	---	---	---	--------

Foolish	1	2	3	4	5	6	7	Wise
---------	---	---	---	---	---	---	---	------

Harmful	1	2	3	4	5	6	7	Beneficial
---------	---	---	---	---	---	---	---	------------

Unenjoyable	1	2	3	4	5	6	7	Enjoyable
-------------	---	---	---	---	---	---	---	-----------

Unpleasant	1	2	3	4	5	6	7	Pleasant
------------	---	---	---	---	---	---	---	----------

Boring	1	2	3	4	5	6	7	Interesting
--------	---	---	---	---	---	---	---	-------------

Stressful	1	2	3	4	5	6	7	Relaxing
-----------	---	---	---	---	---	---	---	----------

Part II: Use the following scale

1	2	3	4	5	6	7
Strongly disagree	Mostly disagree	Slightly disagree	Neither	Slightly agree	Mostly agree	Strongly agree

A) Exercise

Most people who are important to me think I should exercise regularly over the next two weeks.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Most people who are important to me approve of me exercise regularly over the next two weeks.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

B) Group Exercise

Most people who are important to me think I should participate in group exercise classes regularly over the next two weeks.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Most people who are important to me approve of me participating in group exercise classes regularly over the next two weeks.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Part III: Use the scales under each questions

Note: *Regular exercise* is defined as at least 300 minutes a week at moderate intensity (e.g., 5 times a week for an hour each session).

A) Exercise

For me, exercising regularly over the next two weeks would be

Extremely Difficult	1	2	3	4	5	6	7	Extremely Easy
------------------------	---	---	---	---	---	---	---	-------------------

How much control do you feel you have over exercising regularly in the next two weeks?

Very little control	1	2	3	4	5	6	7	Complete control
------------------------	---	---	---	---	---	---	---	---------------------

How much I exercise regularly over the next two weeks is completely up to me.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
----------------------	---	---	---	---	---	---	---	-------------------

B) Group Exercise

For me, participating in group exercise classes over the next two weeks would be

Extremely Difficult	1	2	3	4	5	6	7	Extremely Easy
------------------------	---	---	---	---	---	---	---	-------------------

How much control do you feel you have over participating in group exercise classes in the next two weeks?

Very little control	1	2	3	4	5	6	7	Complete control
------------------------	---	---	---	---	---	---	---	---------------------

How much I participate in group exercise classes over the next two weeks is completely up to me.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree
----------------------	---	---	---	---	---	---	---	-------------------

Part IV: Fill in the blanks below.

A) Over the next two weeks, I intend to engage in ANY type of exercise at least _____ times per week.

B) Over the next two weeks, I intend to participate in _____ group exercise classes.