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Previous research in the field of aesthetic sports such as gymnastics, figure skating and dance, indicates that athletes in these disciplines experience more body dissatisfaction and higher weight concerns than participants in other sports. Studies also show that while intrinsic motivation (e.g., enjoyment of physical activity) can increase participation in the long term, extreme appearance orientation may decrease intrinsic motivation, promoting pressure and amotivation.

The purpose of this research is to explore body perceptions and motivation in rhythmic gymnastics. There are two main questions in the study. First, how do rhythmic gymnasts perceive the importance of body appearance (e.g., physical size or shape) in the sport? Second, what motivates rhythmic gymnasts to participate in the sport, and what leads them to stop participating? Specifically, this research utilized a culturally specific population to understand the subject by examining the body ideals and motivation of female college rhythmic gymnasts in South Korea.

This research supports that fulfilling the basic psychological needs of autonomy, competence, and relatedness can promote motivation in sports. This research also indicates that a sport's focus on appearance and weight control can decrease motivation for participation in that sport. Appearance is very important in rhythmic gymnastics and rhythmic gymnasts use a variety of weight management techniques to maintain body appearance and thinness. Appearance is related to extrinsic motivation in rhythmic gymnastics, and extrinsic motivation can discourage motivation in sports. So, this research suggests that sports and exercise programs should encourage intrinsic motivation rather than extrinsic motivation (e.g. the appearance and weight motive) for continued participation and long term adherence in sports.

BODY PERCEPTIONS AND MOTIVATION IN
RHYTHMIC GYMNASTICS
IN SOUTH KOREA

by

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To my parents, Jongmyung Lee, and Seungbum Kim, who have loved and inspired me.

APPROVAL PAGE

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CHAPTER I

INTRODUCTION

National Health Interview Survey (NHIS) in 2012 showed that half of adults (50%) are sufficiently active based on their participation in leisure-time physical activity in the U.S. However, women are more likely than men to be inactive or insufficiently active and less likely to be sufficiently active in terms of aerobic leisure-time physical activity. Specifically, men (53.9%) are more likely than women (46.5%) to have met the full guidelines for both aerobic and muscle-strengthening activity based on their participation in leisure-time physical activity.

According to the 2013 national sport participation survey in South Korea, 45.5% of Koreans regularly participate in sports (or physical activities) more than once a week. Men (47.3%) are slightly more active than women (43.3%) in sport participation. However, women (26.0%) in their teens have the lowest participation rate in sports (or regular physical activities) and the second lowest is women (34.3%) in their 20's in South Korea. In comparison, the rate for men in their teens is 36.3% and men in their 20's is 40.9%. It seems that more than half of citizens of both countries, and especially women, in the United States and South Korea, need more physical activities. Thus, we must support and encourage sports for girls and women.

Motivation is one of the single most important topics in psychology and is also widely researched in sport and exercise psychology. Over the last three decades, self-

determination theory (Deci & Ryan, 1985) has become one of the most popular motivation theories in sport and exercise psychology.

Self-determination theory (SDT) proposes that motivation is multidimensional and is a continuum of self-determination, ranging from amotivation through extrinsic motivation to intrinsic motivation (Deci & Ryan, 1985). There are three psychological needs to enhance motivation in the direction of self-determination: perceptions of competence autonomy and relatedness.

Several researchers have emphasized self-determination theory in sport and exercise settings (Edmunds, Ntoumani, & Duda, 2006; Thorgersen-Ntoumani & Ntoumanis, 2006). Some studies showed that self-determined motivation promotes adherence in sports and exercise, and intrinsic motivation is important for long-term exercise and sport participation (Ingledew, Markland, & Medley, 1998; Ryan, Frederick, Lepes, Rubio, & Sheldon, 1997; Thorgersen-Ntoumani & Ntoumanis, 2006).

Even though it is rare to study the relationships among self-perception, body image and motivation in sports and exercise, some studies showed that an appearance /weight motive in exercise decreased intrinsic motivation and increased external regulation (Ingledew & Markland, 2008). Some researchers also showed that extrinsic motivation may facilitate dropout in athletes (Pelletier, Fortier, Vallerand, & Brie're, 2001). Treasure, Lemyre, Kuczka, and Standage (2007) suggested that burnout in athletes is associated with high levels of extrinsic motivation and amotivation.

It may be that self-determined motivation can increase enjoyment of physical activities and physical self-worth, but appearance motivation and high social physique

anxiety may create pressure and decrease intrinsic motivation for physical activities. However, it is rare to study how physical self-perceptions and body image are related to motivation in sports and exercise.

Over several decades, many scholars have discussed the role of self -perceptions and body image in sports. While some studies support that sport participation strengthens positive self-perceptions and body image, other research indicates that some sports have a negative influence on self-perceptions and body image. Also, some scholars pointed out gender differences in physical self-perceptions and body image. For instance, some research showed that male athletes have higher self-perceptions than female athletes (Lee, 2009; Park, 2010). In particular, athletes who participated in aesthetic sports or hyper-female-sports, such as gymnastics, figure skating and dance, experienced more body dissatisfaction than participants in other sports (Reel & Gill, 1998; Reel, SooHoo, Jamieson, & Gill, 2005; Swami, Steadman, & Tovée, 2009).

Self-perceptions are defined not only by the thoughts, attitudes, and feelings individuals hold about themselves in general, but can also be formed through self-views of one's skills, abilities and characteristics in a particular achievement domain (Horn, 2004). Body image can be defined as the internal representation of your outer appearance (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). There are several theoretical approaches to body image including cognitive-behavioral, socio-cultural, and feminist perspectives (Cash & Smolak, 2011).

From the socio-cultural perspective, body image and appearance are significant social constructs in contemporary society. Michel Foucault (1990) argued that society

requires various forms of ‘physical discipline’ and ‘bio-power’ related to a society of ‘normalization’ (Fausto-Sterling, 2000). Even though the majority of participants in body image studies in the United States are Caucasian, some research has indicated that there are different dominant cultural standards of beauty, and that racial identity intersects with gender identity. Hesse-Biber, Howling, Leavy and Lovejoy (2004) showed that African American girls did not experience weight dissatisfaction in the same manner as Caucasian girls. In a qualitative research study involving low-income African American adolescent girls, Hesse-Biber et al. (2004) showed that even though body image is still important to African Americans, African American participants did not express the same degree of weight dissatisfaction because they did not internalize the larger culture's conceptions of beauty. African American girls did not accept Caucasian notions of weight, but they indicated appearance concerns about their hair and skin instead of weight.

Furthermore, some studies indicate that current Western societal standards for female beauty, which emphasize the desirability of thinness, have expanded globally. Wardle, Haase, and Steptoe (2006) compared college students from 22 countries on body mass index (BMI), weight perceptions, and attempts to lose weight. Wardle et al. (2006) found that women generally felt more overweight than men in all countries and this study indicated that perceptions of being overweight were the highest for women in Asian countries such as Japan and South Korea. Approximately 70% of women in Japan and Korea believed that they were overweight, and 77% had made attempts to lose weight, even though their body weights were generally low. Thus, the study implied that women

in Japan and Korea, in particular, try to control their weight more than women in any other country today.

From a feminist and gender perspective, a number of researchers have investigated body image focusing on body dissatisfaction, media influences and gender differences (Cash & Pruzinsky, 1990; Levine & Smolak, 2002; Thompson & Stice, 2001). Many scholars demonstrated that not only do the majority of women and girls negatively experience their body image, but also that females have more body dissatisfaction than males (McDonald & Thompson, 1992; Feingold & Mazzella, 1998). Recently, a national survey by TODAY and AOL (2014) revealed that 67 % of adult women worry about their appearance regularly, which is more often than finances, health, family/relationships or professional success. Thompson and Stice (2001) pointed out that the thin-ideal pressure for women can increase body dissatisfaction and eating disorders. It seems that ‘thin-ideal internalization’ is one of the key factors contributing to increased body anxiety for women in the United States and Western European Countries.

In sport and exercise psychology, over the past 30 years, several researchers have shown that physical activity can positively enhance self-perception, self-concept or self-esteem (Marsh, 1998; Malete, Sullivan, & Matthies, 2008; Sonstroem, 1984; Trujillo, 1983). Similarly, some studies demonstrated that athletes have higher self-perceptions than non-athletes (Evan et al., 2007; Evans, Caputo, Farley & Ward, 2007; Marsh et al., 1995; Marsh, 1998; Marsh, Perry, Horsely & Roche, 1995; Park, 2010).

Recently, some systematic reviews and meta-analyses have been published on the relationship between physical activity and physical self-concept (Campbell & Hausenblas,

2009; Greenleaf, Baker, Aragon, Bishop, Cachaper, & Handwerek, 2007; Hausenblas & Fallon, 2006). Campbell and Hausenblas (2009) reviewed the effects of exercise intervention programs on body image using 57 studies. The results indicated an overall small effect of exercise on body image. The studies had different effect sizes, different variables and moderators, and varying designs, but the majority of studies still found a positive relationship between exercise and body image.

Babic, Morgan, Plotnikoff, Lonsdale, White, and Lubans (2014) also conducted a systematic review and meta-analysis of the association between physical activity and physical self-concept in children and adolescents. The meta-analysis indicated medium effect sizes for the relationship of physical activity to general physical self-concept, perceived competence and perceived fitness. In particular, perceived competence was most strongly associated with physical activity, followed by perceived fitness, general physical self-concept and perceived physical appearance. Also, for general physical self-concept, sex was a significant moderator ($p < .05$). However, the study revealed a weak association between perceived appearance and physical activity. Even though age was a statistically significant moderator of effects, sex was not a significant moderator of effects with perceived appearance.

Several researchers have found that athletes have higher self-perceptions than non-athletes (Evans et al., 2007; Marsh, 1998; Marsh et al., 1995; Park, 2010). However, some researchers pointed out that many athletes are still at a greater risk for body image disturbance because of sport-related concerns (e.g., performance advantages, weight requirements) and social pressures (e.g., coach, judge, teammates). Specifically, gender is

an important factor for understanding the relationship between physical self-perception and body image in sport. For example, Marsh (1998) showed significant differences in self-perceptions by athlete status (athletes > non-athletes) and gender (males > females). Particularly, gender had a greater effect than group on appearance, body fat and global physical scales.

Park (2010) examined the physical self-concepts by comparing elite athletes (baseball, soccer, basketball, volleyball, etc.) and non-elite athletes in high school in South Korea. For perceptions of sport competence, female student athletes ($M=2.73$) scored lower than male student athletes ($M=3.64$), but there was no statistically significant gender difference. However, male students ($M=3.41$) were more confident than female students ($M= 2.74$) on appearance. Each group's positive self-perception of appearance, ranked in descending order, were as follows: male student athlete ($M=3.74$), male non-student athletes ($M=3.12$), female non-student athletes ($M=2.80$) and female student athletes ($M=2.69$). Thus, the study showed that female student athletes may have lower self-perceptions of appearance than any other student group.

Some studies also found that participants in certain sports (especially aesthetic sports or hyper-female-sports) such as gymnastics, figure skating and dance, experience more body dissatisfaction than participants in other sports (Gay, Monsma, & Torres-McGehee, 2011; Reel & Gill, 1998; Reel et al., 2005; Swami et al., 2009). Reel and Gill (1998) showed that male and female cheerleaders have different body ideals with the female cheerleaders having significantly higher social physique anxiety scores. Reel et al. (2005) found that college female dancers reported pressure to lose weight, and Swami et

al. (2009) suggested that women participating in leanness sports may experience more body dissatisfaction than women in other sports or non-athletes. Recently, Gay, Monsma, and Torres-McGehee (2011) also showed that individual female aesthetic athletes were older at menarche, had lower BMIs, and reported higher social physique anxiety. Remarkably, individual female aesthetic sports athletes were nearly 4.5 times higher in social physique anxiety scores than non-aesthetic sport athletes.

However, most of the body image research in sports has been conducted in North America and Europe, and few studies have been done with different cultural groups in other countries. Figure skating and rhythmic gymnastics have become very popular in South Korea over the last five years. The number of elite female athletes in South Korea still remains small, but recently there has been growing popularity in aesthetic sports there. For example, according to the Korea Federation of Advertising Associations (KFAA), in October 2012, Yu-na Kim, a female figure skater, was 5th-ranking, and Yeon-jae Son, a female rhythmic gymnast, was 7th-ranking in terms of TV advertisement likability in South Korea. There were, in fact, no male athletes that year in the Top 10 most popular endorsement stars in South Korea. Also, Yeon-jae Son obtained the number one viewing rate slot during the 2012 Summer Olympics in South Korea.

Traditionally, sports tend to be male-dominated globally, and during the past half-century, it was rare to see female athletes receive attention the way they do in South Korea today. Some studies have shown that highly popular female athletes in South Korea are rare, but they are very important because highly popular female athletes serve as role models and greatly affect female interest and participation in sports (Ham, 2009).

Over the past several decades, South Korea has achieved remarkable economic growth. Just 40 years ago, South Korea was one of the poorest countries in the world, and today the nation has the world's 11th largest economy (Heo & Roehrig, 2010). However, as South Korea become Westernized and infused with the Western culture, many women admire a tall, thin and lean body. For example, many girls and women have realized that slim is desirable, and they are trying to fit the zero-size clothing.

Moreover, female body dissatisfaction, weight pressure and eating disorders have also increased with economic success in South Korea (Jung & Forbes, 2007). Although fitness industries have become bigger and female participation in sports and exercise has increased, the norm of thin ideal for women and unhealthy weight control are problematic.

Furthermore, some studies revealed that appearance orientation in sports and exercise may reduce intrinsic motivation and promote extrinsic regulation and amotivation, while intrinsic motivation (e.g., enjoyment) in sport and exercise can increase participation in the long term (Gillison, Standage & Skevington, 2006; Ingledeew & Markland, 2008). So, the appearance motive is unlikely to sustain participation in the long term with regard to sports and exercise. Thus, some researchers suggested that sports and exercise promotion programs should encourage the well-being and enjoyment benefits of exercise rather than the appearance/weight motive.

Purpose and Research Questions

Purpose

The purpose of this research is to explore body perceptions and motivation in rhythmic gymnastics. Specifically, I will extend that research to the Korean population and describe the perceptions of female college rhythmic gymnasts in South Korea.

Research Questions

There are two main questions in the study. First, what are the important factors for a good performance in rhythmic gymnastics? Specifically, how do rhythmic gymnasts perceive the importance of body appearance (e.g., physical size or shape) in the sport? Second, what motivates rhythmic gymnasts to participate in the sport, and what leads them to stop participating?

It is expected that appearance and body size are important in rhythmic gymnastics, and that greater appearance and body issues may be related to less intrinsic motivation. This research will contribute to the literature on body image and motivation in sport, and extend the research specifically to Korean.

CHAPTER II

LITERATURE REVIEW

Self-perceptions are not only the thoughts, attitudes, and feelings individuals hold about themselves in general, but can also be formed through self-views of one's skills, abilities and characteristics in a particular achievement domain (Horn, 2004). While self-perception and body image are closely linked, body image can be differentiated as the internal representation of your outer appearance (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999).

The existing literature suggests that physical activity or sports is closely linked to, and can have a direct influence on, self-perceptions and body image. The type of influence, however, varies depending on the sport, gender and cultural context being examined. This chapter will review the role of self-perceptions and body image in sport. It will include theory and research from sociocultural and psychological perspectives, and highlight gender and cultural issues in relation to self-perceptions and body image in sport.

Motivation is one of the most important topics in sport and exercise psychology. In particular, self-determination theory (e.g. Ryan & Deci, 2002) has become one of the most popular theories in the study of motivation in sport and exercise psychology. This chapter will review the self-determination theory and focus on physical self-perception and body image in relation to motivation in sport.

Self-perception and Body Image

Self-perception

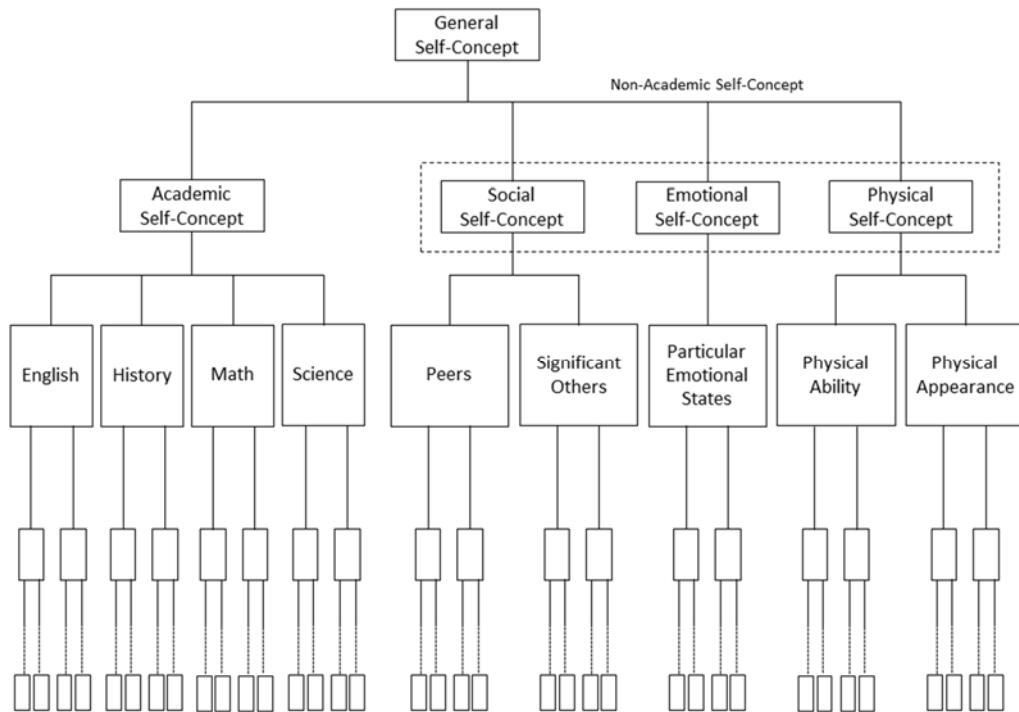
Self-concept is a complex, multifaceted term that can be understood as the way an individual views themselves. An individual's self-concept, or self-perception, can be formed from an early age through self-evaluations of abilities related to academics, social interactions, emotional control, physical appearance and even physical abilities (Shavelson, Hubner, & Stanton, 1976) in general, and physical abilities related to sports specifically (Fox & Corbin, 1990). When considering the various aspects of self, individuals may use their evaluations to adopt a variety of identities as a way of defining who they are (Marsh, 1990).

Self-perception can be discussed in terms of self-concept or self-esteem. Even though the term self-esteem may be similar to self-concept, self-concept is the descriptive aspect of the self, whereas self-esteem is the evaluative aspect of the global self. The self-evaluations that form one's self-esteem can be positive or negative (Gill & Williams, 2008).

Several multidimensional models have been developed to illustrate the relationship between the various components of self-concept. Shavelson et al. (1976), for example, proposed a multifaceted structure for self-esteem in children (Figure 1). According to this model, general self-concept consists of an academic self-concept, as well as a non-academic concept that includes social self-concept, emotional self-concept, and physical self-concept. Each of these four subdomains can be broken down into further subdomains.

Figure 1

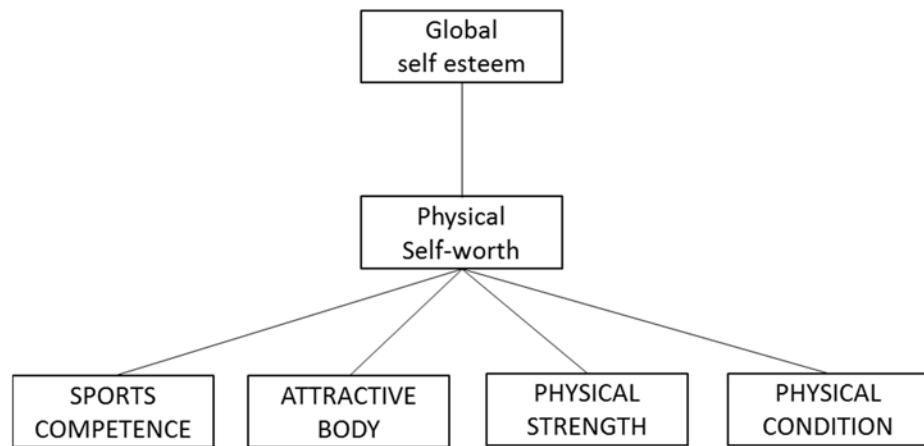
Structure of Self-Concept (Shavelson et al., 1976)



Specifically, general self-concept is at the top level, and is divided into academic and nonacademic in the second level. Academic self-concept includes the way one views their abilities in English, history, math, and science. Non-academic self-concept includes social, emotional and physical self-concepts. Physical self-concept can be further broken down to include self-views on physical ability and physical appearance. That is, this model supposes that both physical ability and physical appearance directly contribute to physical self-concept, and ultimately impact general self-concept.

Figure 2

Hierarchical Model of Physical Self-perception in the Physical Domain (Fox and Corbin, 1990)



Fox and Corbin (1990) expanded the previous research by investigating the physical subdomain of self-concept. According to the Fox and Corbin's model, perceptions of physical self-worth impact global self-esteem. An individual's feelings about sports competence, body attractiveness, physical condition, and physical strength all contribute to physical self-worth (Figure 2).

Fox and Corbin (1990) proposed this multidimensional, hierarchical model of physical self-perception placing global self-esteem at the top of the hierarchy, followed by physical self-worth in the second level. Furthermore, physical self-worth consists of four subdomains: sports competence, attractive body, physical strength, and physical condition. This indicates that physical self-efficacy is directly affected by how an individual feels about each of the subdomains. In other words, beliefs about one's own

physical capabilities affect how they judge their overall physical self-worth, and ultimately influence their global self-esteem.

Various instruments for measuring physical self-perception have been developed over the past 30 years. The Physical Self-Perception Profile (PSPP) (Fox, 1990; Fox & Corbin, 1989) and the Physical Self-Description Questionnaire (PSDQ) (Marsh, Richards, Johnson, Roche & Tremayne, 1994) have been extensively used among diverse population groups such as children, adolescents, athletes and older adults. Both instruments have demonstrated good validity, sensitivity, reliability, stability, and have been widely used in many countries including the United States.

For instance, in the late 1980s, Fox and Corbin (1989) developed the Physical Self-perception Profile (PSPP) to measure physical self-perceptions based on the Harter and Shavelson (1985, 1986), and Hubner and Stanton (1976) models. The PSPP has 30 items and consists of five sub-domains: sports competence, attractive body, physical strength, physical condition, and physical self-worth. It has also been examined and used in many other countries such as Belgium (Van, 2002), Spain (Gutierrez, Moreno, & Sicilia, 1999), France (Ninot, Delignieres, & Fortes, 2000), Portugal (Fonseca & Fox, 2002), Turkey (Asci, Asci & Zorba, 1999), and South Korea (Yu & So, 1998).

The Physical Self-Description Questionnaire (PSDQ), however, was developed based on Marsh and Shavelson's hierarchical model of self-concept (Marsh, 1990). The PSDQ has 70 items, and consists of nine components of PSC (strength, body fat, activity, endurance and fitness, sport competence, coordination, health, appearance and flexibility), a global physical scale, and a global self-esteem scale.

Body Image

Body image is defined as the internal representation of your outer appearance (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Several evaluative aspects of body image exist including cognitive-behavioral, sociocultural, and feminist perspectives (Cash & Smolak, 2011). This review focuses on the sociocultural and feminist perspectives.

From the sociocultural perspective, body image and appearance has become an incredibly significant social construct in contemporary society. Michel Foucault (1990) argued that in order for society to function well, it requires various forms of physical discipline from its members. Specifically, Foucault described how “bio-power” is related to “a society of normalization.” (Fausto-Sterling, 2000). According to Foucault (1990), “bio-power” is “an explosion of numerous and diverse techniques for achieving the subjugations of bodies and the control of populations” (Foucault, 1990). Foucault also examined how the body constitutes not only daily practices but also large institutions. Foucault emphasized that bio-power has numerous and diverse techniques, so power can be everywhere.

For instance, current Western societal standards for female beauty emphasize the desirability of thinness. These ideals are then transmitted to the general population through powerful and pervasive sociocultural influences, most notably the media, family, and peers (Tiggemann, 2011). Even though the unrealistic thin-ideal is difficult to impossible for most women to achieve, it is accepted, internalized and adopted by many

women. This may lead women to pursue thinness, and develop a higher level of body dissatisfaction, ultimately resulting in eating disorders.

Cultural disparities regarding body image exist not only between different countries, but between different communities within a country as well. Even though the majority of subjects in body image studies in the United States are Caucasian, a recent drive to increase the study of body image among more diverse ethnic groups has developed. Research has indicated that there are different dominant cultural standards of beauty, and that racial identity intersects with gender identity in certain ethnic communities.

While the research is still dominated by Caucasian participants, when considering studies involving more diverse groups of women, data have shown that Caucasians tend to have a higher degree of body image dissatisfaction than ethnic minorities (Akan & Grilo, 1995; Altabe, 1998; Mintz & Kashubeck, 1999; Smith, Thompson, Raczyński, & Hilner, 1999).

Several studies on gender and race have indicated that African American women tend to report higher satisfaction with their body image in terms of weight, and are less likely to diet, compared to Caucasian women (Fujioka et al., 2009; Hesse-Biber et al., 2004). Fujioka et al. (2009) compared 286 white and black female college students and showed that white women endorsed thinness and thin media images more strongly than black women. Fujioka et al. (2009) demonstrated that for white women, thinness was constantly encouraged through the mainstream media, as well as via white culture. However, Fujioka et al. (2009) pointed out even though thin media images encouraged

black women to accept thinness as one of their important values, black culture countered the idea more strongly.

Similarly, Hesse-Biber et al. (2004) showed that African American girls do not experience weight dissatisfaction in the same manner as Caucasian girls. Hesse-Biber et al. (2004) indicated however, that body image is still important to African Americans. Even though African American women do not accept Caucasian notions of weight, the African American women in the study still indicated appearance concerns about their hair and skin. The straightening of hair and attempts to achieve lighter skin tones, for example, have permeated Black culture.

Buckley and Cater (2005) also showed that Black girls' gender roles and self-esteem are different from other racial/cultural groups in that Black adolescent girls with androgynous characteristics reported high levels of self-esteem. Also, androgyny was associated with high scores on the internalization of Black racial identity. Through this study, Buckley and Cater (2005) concluded that Black girls with androgynous characteristics, who had a positive Black racial identity, can actually have greater self-esteem, which stands in opposition to pervasive White standards of beauty.

Thus, the studies have shown that there is a diverse range of social norms, including varied perspectives on appearance and power preferences depending on the cultural group. A variety of opinions on body image exist in different communities, and what may be seen as a positive trait in one cultural group, can be seen as negative or irrelevant in another.

However, it is significant to note that there have been a limited number of studies that found virtually no relationship between a woman's ethnic identity and body dissatisfaction. Baugh, Mullis, Mullis, Hicks and Peterson (2010), for example, surveyed 118 female students in two southeastern United States universities, examining racial identity and body image. They found that although Caucasian women have generally higher body dissatisfaction than African American women, the correlation between body image and ethnic identity was not statistically significant. Much of the existing research and literature, however, is still dominated by data obtained with Caucasian participants. Much more research is needed with culturally and ethnically diversified participant groups in order to gain a more accurate understanding of body image.

Feminist perspectives and theory on body image argue that women's normative body dissatisfaction is not a function of individual pathology, but rather a systematic social phenomenon. Feminists have found the social-construction perspective useful in understanding women's body experience, and its correlation to gendered power relations. Feminists stress the power inherent in social constructions that normalize gender inequalities (McKinley, 2011).

Many scholars have demonstrated that the majority of women and girls negatively experience their body image. Research has consistently shown that females have more body dissatisfaction than males (Feingold & Mazzella, 1998; Hausenblas, Janelle, Gardner, & Focht, 2004; McDonald & Thompson, 1992). Specifically, many young women are dissatisfied with their body size and weight, and desire to be thinner. Some

studies further showed that a culture-wide sexualization of girls (and women) contributes to increased female anxiety associated with body image.

The Girl Scout Research Institute (2010), for example, surveyed more than 1,000 girls ages 13 to 17, and reported that nearly 90% of adolescent females said the fashion industry (89 percent) and/or the media (88 percent) placed an inordinate amount of pressure on them to be thin. Also, 61% of girls indicated that they compared their bodies to fashion models, and 31% of girls admitted to starving themselves in order to lose weight. Recently, a national online survey by TODAY and AOL (2014) also revealed that 67% of adult women worry about their appearance regularly, which is more often than finances, health, family/relationships or professional success.

Some studies also indicated that Western societal standards for female beauty or thinness have expanded globally. In particular, some studies have found that women in Asian countries, especially South Korea and Japan, consistently perceive themselves as overweight, and report that they are seriously working to control their weight (Hwang, 2009; Wardle et al., 2006).

For example, Wardle et al (2006) compared college students from 22 countries on body mass index (BMI), weight perceptions, and attempts to lose weight. Wardle et al. (2006) found that women generally felt more overweight than men in all countries. Men were consistently less aware that they were overweight, and only a few of them were trying to lose weight. However, women in general had more weight loss attempts regardless of their BMI. In addition, this study indicated that the highest countries of perceptions of being overweight and attempts to lose weight were Japan and South Korea.

Over 70% of women in these countries believed that they were overweight and had made attempts to lose weight, even though their body weights were generally low. Thus, it seems that women in Japan and Korea, in particular, try to control their weight more than women in any other country today.

Hwang (2009) investigated female university students in South Korea, and found that more than 51.2% of the female students perceive themselves as overweight, yet only 8.9% of the women were obese as defined by Body Mass Index (BMI) guidelines. Moreover, 88% of female students were also not satisfied with their body shape. These studies show that racial identity can intersect with gender identity to create body image, and women may receive positive or negative support from their cultural group, depending on the predominant standards of beauty in their communities.

Recently, however, there is also increasing evidence that men and boys experience body dissatisfaction, combined with a desire to be more muscular. Dworkin and Wachs (2009) showed that men's bodies in fitness magazines are clearly related to displays of masculinity through size/power, sport, or military involvement. Images of women's bodies, on the other hand, were clearly limited to fitness, reducing size, and service within the home (Dworkin & Wachs, 2009).

Even though there is limited research comparing women of different ethnicities and sexual orientations, a few studies have found that there is higher body surveillance among low-income women who are European American compared to those who are African American or Latino (McKinley, 2011). There is also a higher degree of body surveillance among lesbian women compared to heterosexual women, and skin tone

surveillance is also uniquely related to body shame in African American women (McKinley, 2011). It is clear, however, that much more research is needed to comprehensively understand the relationship among female body image, ethnicity, social class, and sexual orientation.

Research on Self-perception and Body Image in Sport

Physical Self-perception and Body Image in Physical Activity

Numerous researchers have demonstrated that physical activity can enhance positive self-perception, self-concept or self-esteem (Malete et al., 2008; Marsh, 1998; Sonstroem, 1984; Trujillo, 1983). Some studies have specifically examined how exercise intervention programs promote positive physical self-perception. Trujillo (1983) compared the self-esteem of college women in running and weight training groups versus non-exercise groups and found that after only one semester, the exercise groups showed an improved self-esteem relative to the non-exercise group.

Taylor and Fox (2005), on the other hand, investigated the effectiveness of a 10-week primary care exercise intervention program on the physical self-perceptions of 40–70 year olds. The results revealed that the exercise group showed greater physical self-worth, physical condition, and physical health at 16 and 37 weeks compared to the initial assessment. Thus, the study showed that exercise programs may be beneficial in helping middle-aged individuals and seniors to have a more positive physical self-perception.

Asci (2003) investigated the effects of physical fitness programs on anxiety and physical self-concept in Turkey. Forty female university students participated in the study and were randomly assigned to experimental ($n=20$) or control ($n=20$) groups. The

experimental exercise group participated in one aerobic, and two step-dance sessions per week, for 10 weeks. The outcome was that participants in the exercise group improved more in the physical activity, coordination, sport competence and flexibility subscales of physical self-concept than the control group. In addition, there was a significant reduction in anxiety scores of participants in the exercise group. Thus, this research indicated that a 10-week physical fitness program may be effective in not only strengthening the physical self-perceptions of female university students, but in reducing anxiety as well.

In a separate study, Özdemir, Celik, and Asci (2010) examined the effects of 12-week exercise interventions on physical self-perceptions of male university students. Participants were randomly and equally assigned to swimming, running, cycling and control conditions. However, the results showed that all groups (including the control group) revealed better physical self-perceptions from pre- to post-test and group differences did not reach statistical significance. Özdemir, Celik, and Asci (2010) suggested that the non-significant results could be attributed to limited sample size and a high physical self-perception pre-test score mean. These results may imply that exercise interventions might be more effective for those with a lower initial physical self-esteem (Fox, 2000).

Importantly, there are several systematic reviews and meta-analyses that have been published to clarify the relationship between physical activity and physical self-concept (Campbell & Hausenblas, 2009; Greenleaf et al., 2007; Hausenblas & Fallon, 2006). Based on a sampling of 121 studies Hausenblas, and Fallon (2006) found limited

correlation between exercise and body image, while Greenleaf et al. (2007) found moderate correlation based on an examination of 35 studies.

Campbell and Hausenblas (2009) also reviewed the effects of exercise intervention programs on body image using 57 studies. The results indicated an overall small effect of exercise on body image. Recently, Babic et al. (2014) conducted a systematic review and meta-analysis of the association between physical activity and physical self-concept in children and adolescents. The meta-analysis indicated a medium effect size between general physical self-concept, perceived competence and perceived fitness and physical activity in young people. Thus, Babic et al. (2014) concluded that promoting physical activity in children and adolescents will help to enhance their physical self-perceptions as well.

Physical Self-perception and Body Image in Sport

Several researchers have found that athletes have higher self-perceptions than non-athletes (Evans, Caputo, Farley, & Ward, 2007; Marsh, 1998; Marsh, Perry, Horsely, & Roche, 1995). However, some researchers have reported that athletes report similar or an even higher body image concern compared to non-athletes (Anderson, Zager, Hetzler, Nahikian-Nelms, & Syler, 1996; Fulkerson, Keel, Leon, & Dorr, 1999; Hausenblas & Mack, 1999). Still other researchers have suggested that athletes are at a greater risk for body image disturbance because of sport-related concerns (e.g., performance advantages, weight requirements) and social pressures (e.g., coach, judge, teammates), which encourage them to strive for an idealistic physique (Davis & Cowles, 1989; Rao & Overman, 1986).

In a meta-analytic review, Hausenblas and Downs (2001) examined body image of athletes and non-athletes, and the consequences as a result of body image disturbance in each group. A small effect was found, where athletes had a more positive body image compared to the non-athletes. This study showed that while many athletes have a greater degree of positive self-perception and body image than non-athletes, it is not a perfect relationship, as some athletes have more negative perceptions in these areas as compared to non-athletes.

Marsh et al. (1995) compared self-concepts of elite athletes and non-athletes, and discovered that both male and female athletes had significantly higher levels of self-esteem than male and female non-athletes. The positive relationship between increased physical activity and self-perception appears to hold true not only for different gender and age groups, but across cultures as well. Malete, Sullivan, and Matthies (2008), for example, examined the relationship between physical self-perception and the degree of involvement in sports or physical activity among Jamaican adolescents. They found significant correlations between the level of sport participation and positive physical self-perception (Physical Self-Worth, Physical Appearance and Physical Competence). Specifically, competitive athletes had significantly higher mean levels of physical self-worth and physical appearance, as compared to recreational athletes and non-athletes. The recreational athletes, interestingly, did not differ significantly from non-athletes on any of the three factors (Physical Self-Worth, Physical Appearance and Physical Competence). For physical competence, while competitive athletes did not differ significantly from recreational athletes, they did differ significantly from non-athletes.

Overall, Malete et al. (2008) showed that the involvement in sports tended to lead to higher physical self-perceptions in Jamaican adolescents.

Research has been performed in a variety of countries, demonstrating that the link between physical self-worth and increased sport involvement crosses age and cultural boundaries. Park's (2010) study, for example, specifically focused on physical self-concept of elite athletes (baseball, soccer, basketball, volleyball, etc.) and non-elite athletes in high schools of South Korea. Elite student athletes tended to have higher evaluations of their physical self-concept (physical activity, sports competence, appearance, flexibility, durability and body fat) than non-student athletes. Particularly, elite student athletes ($M=4.06$) had higher sports competence than non-student athletes ($M=3.29$).

Gender-specific studies have also been published which have indicated that female athletes in particular have higher self-perceptions compared to non-female athletes. For example, Evans et al. (2007) compared physical self-perceptions between female university student athletes and non-athletes. The Physical Self-Perception Profile (PSPP) was distributed to female university students and results revealed that female athletes scored higher ($p < .001$) than non-athletes on all subscales of physical self-perceptions (attractive body, physical condition, physical self-worth, physical strength, and sports competence). Evans et al. (2007) concluded from this finding that female student athletes had higher self-perceptions than non-female athletes at the university level. Evans et al. (2007) further indicated that participation in sports may be positively associated with higher physical self-perceptions among college females in particular.

Gender in Physical Self-perception and Body Image in Sport

Gender is an important variable to consider to obtain a comprehensive understanding of the relationship between physical self-perception and body image in sport. Some sports studies have reported that male athletes have higher self-perceptions than female athletes. Marsh (1998) showed significant differences of self-perceptions due to group (athletes > non-athletes) and gender (males > females). Specifically, group (elite vs. non-elite athletes) had a greater effect than gender on physical self-concept on the PSDQ. However, gender had a greater effect than group on appearance, body fat and global physical scales on PSDQ.

Daley and Hunter (2001) examined male and female junior athletes' self-perceptions and body image in British sprint kayaking. Girls (aged 13-17) reported significantly higher sports competence (PSPP-C: Physical Self-perception Profile for Children) and lower appearance orientation (MBSRQ: Multidimensional Body-Self Relations Questionnaire) than boys. It could be inferred from this study, that girls who participated in power and strength based sports have lower appearance orientations among physical self-perceptions than male athletes.

Park (2010), on the other hand, examined the physical self-concepts of South Korean high school students, by comparing student athletes (male and female) and non-student athletes (male and female). The study showed that female student athletes have lower self-perceptions of appearance than any other student group (male athletes > male non-student athletes > female non student athletes > female student athletes). Thus, this

seems to indicate that female student athletes may have the lowest physical self-perceptions of appearance among high school student groups.

Studies of physical self-perceptions in sports have not been limited to sports typically emphasized in the West. Recently, Lee (2009) studied physical self-description and emotion with Korean Taekwondo middle and high school athletes. It was found that male athletes score higher than female athletes in physical self-descriptions (PSDQ) and positive emotions. Also, Lee (2009) divided participants into two groups based on prize results: high prize and non-prize groups. Male athletes who received prizes in national championships showed higher physical self-description than female athletes who received prizes in national championships. However, among the non-prize group, physical self-description was not significantly different between male and female athletes. Thus, this study generally showed that male athletes tend to have higher physical self-description and positive emotion compared to female athletes. Additionally, male athletes in the high prize group may possess an even greater degree of positive emotion and higher self-confidence or self-perception because of the acknowledgments of their achievements and abilities.

Self-perception and Body Image in Aesthetic Female Sport

Some research has indicated that participants in certain sports such as gymnastics, figure skating and dance, experience more body dissatisfaction than participants in other sports (Gay, Monsma, & Torres-McGehee, 2011; Reel & Gill, 1998, Reel et al. 2005;). Smolak, Murnen, and Ruble (2000) revealed that in a meta-analysis of the relationship between athletic participation and eating disorders, female

athletes competing in elite, lean sports, especially dance, were at a higher risk for eating disorders. Prevailing research supports the contention that female athletes are in fact at risk for developing eating disorders (Greenleaf, Petrie, Carter, & Reel, 2009; Petrie, Greenleaf, Reel, & Carter, 2009; Sanford-Martens et al., 2005; Sundgot-Borgen & Torstveit, 2004; Torstveit, Rosenvinge, & Sundgot-Borgen, 2008).

Female cheerleaders, for example, who participated in a combination of high-intensity, gymnastic and dance related activities, had significantly higher social physique anxiety scores, and a greater tendency for eating disorders than male cheerleaders (Reel & Gill, 1998). Reel et al. (2005) found that college female dancers reported a greater pressure to lose weight, and Swami et al. (2009) suggested that women participating in leanness sports may experience more body dissatisfaction than women in other sports or non-athletes. Recently, Gay, Monsma, and Torres-McGehee (2011) showed that individual female aesthetic sport athletes were older at menarche, had lower BMIs, and reported higher social physique anxiety. Notably, the higher social physique anxiety scores were nearly 4.5 times higher for individual female aesthetic sports athletes, than for non-aesthetic sport athletes.

Certain lean-sports may pose more risk for eating disorders than other non-lean sports. Torstveit, et al. (2008) studied elite female athletes from a variety of different sports. They found that the prevalence of clinical eating disorders among the athletes and non-athlete controls were similar, but lean-sport female athletes, which included gymnasts and swimmers among others, had a significantly higher percentage of clinical eating disorders (46.7%) than non-lean sport athletes (19.8%), or control groups (21.4%).

Sundgot-Borgen and Torstveit (2004) also reported that the prevalence of eating disorders among Norwegian female athletes competing in aesthetic sports (42%), which included gymnastics, was higher than the percentage in endurance (24%), technical (17%), and ball game sports (16%).

Reinking and Alexander (2005) compared disordered-eating symptoms between collegiate athletes (in lean and non-lean sports), and non-athletes. Lean-sport athletes had a higher score on body dissatisfaction, and a lower actual and desired body weight than non-lean-sport athletes. A total of 7.1% of the collegiate athletes, and 12.9% of the non-athletes, were classified as having a high risk for disordered eating. Within the collegiate athlete sample, the high-risk group included 2.9% non-lean-sport athletes, and 25% lean-sport athletes. These studies reinforce the supposition that aesthetic and lean sports' female athletes have a higher risk of developing eating disorders as compared to other athlete groups.

Several studies attribute the rates of eating disorders in aesthetic sport cultures to an emphasis on extreme thinness. In gymnastics, Davison, Earnest, and Birch (2002) reported that girls in the aesthetic sport group reported higher weight concerns than girls in the non-aesthetic and no sport groups at ages five and seven. In addition, it was discovered that girls participating in aesthetic sports at ages five and seven, reported the highest weight concerns at age seven. Nordin, Harris, and Cumming (2003) also examined three different types of gymnastics: artistic, rhythmic, and sports acrobatics. The results showed that rhythmic gymnasts reported higher 'drive for thinness' scores, and higher eating disturbance scores, than artistic gymnasts and sports acrobats. In

addition, age and hours of training were unrelated to eating disturbance scores, but perfectionism was positively correlated to eating disturbance scores.

Choi (2000) demonstrated that female athletes had higher degrees of eating disorders than male athletes, and also showed that athletes in appearance-based sports such as gymnastics and rhythmic gymnastics, and weight-based sports such as judo, weightlifting, wrestling, and taekwondo, are at higher risk. It might be possible then, that athletes are more at high risk of body dissatisfaction and eating disorders if they perceive that performance is enhanced through weight-regulation.

Within the sports environment, social pressures from coaches, judges, and trainers have also been studied, as the influences of interpersonal factors may escalate disordered eating behaviors among athletes. Many female athletes in aesthetic sports have experienced weight or body-related harassment and disparagement from their coaches (Berry & Howe, 2000; Rhea, 1998). Berry and Howe (2000) also reported that social pressure to be thin is a significant predictor of restrained and disordered eating among female university gymnasts, and that coaches and peers can play a significant role in the development of eating disorders.

Rosen and Hough (1988) found that two-thirds of all female college gymnasts were told by their coaches that they were too heavy. Moreover, 75% of these athletes responded to coaches' directives to lose weight by using unhealthy weight control methods such as self-induced vomiting, diet pills and fasting. Similarly, Cho et al. (1999) studied South Korean female gymnasts, and found that most gymnasts (95%) reported that they used weight-control methods, and that the motivation for their diets were

“coaches and trainers” (75%), “exercise” (65%), “friends and fellows” (10%) and “appearance” (5%). In addition, Heffner, Ogles, Gold, Marsden, and Johnson (2003) compared gymnastics coaches and NCAA Division I coaches, and found that gymnastics coaches differed from other coaches on their attitudes toward eating and weight in the sport. Specifically, gymnastics coaches engaged in more monitoring and weight management behavior than other coaches, and reported more eating and weight related problems in their athletes. This research indicates that many coaches make decisions about the need for weight loss in their athletes on the basis of appearance, and that coaches’ comments can have powerful effects, causing significant social pressures for female athletes. Thus, coaches’ comments, as well as overall pressures related to body issues of appearance, are likely to affect motivation and participation in sport such as aesthetic sport (e.g., rhythmic gymnastics).

Motivation Theories and Models

Sage (1977) defined motivation as the direction and intensity of effort. Motivation is one of the most important topics in psychology and is also widely researched in sport and exercise psychology. Some motivation theories used in sport and exercise psychology, such as Competence Motivation (Harter, 1978, 1981), Achievement Goal (Nicholls, 1984), Cognitive Evaluation (Deci, 1975; Deci & Ryan, 1985), Sport Commitment (Scanlan et al., 1993), Expectancy-Value (Eccles & Harold, 1991), and Attribution (Weiner, 1979).

During the last few decades, social cognitive approaches to motivation have become dominant in sport and exercise psychology research. For instance, Roberts (2012)

showed that the most popular contemporary theories of motivation in sport and exercise psychology over the past 35 years tend to be based on organismic theories (e.g., self-determination theory, Deci & Ryan, 1985) or social-cognitive theories (e.g., self-efficacy, Bandura, 1986) which assume that the human person is an active participant in the decision-making process and in planning achievement (Roberts, 2012).

Recently, Alcaraz, Torregrosa, Viladrich, Ramis, and Cruz (2014) have observed a trend over the last three decades with the theoretical framework most used in the study of sport motivation shifting from Achievement Goal Theory (AGT) to Self-Determination Theory (SDT). Thus, even though the achievement goal theory had emerged as the most popular motivation theory in sport and exercise psychology contexts within the past three decades, self-determination theory (e.g. Ryan & Deci, 2002) is increasingly becoming a more popular theory in the study of motivation in sport and exercise psychology.

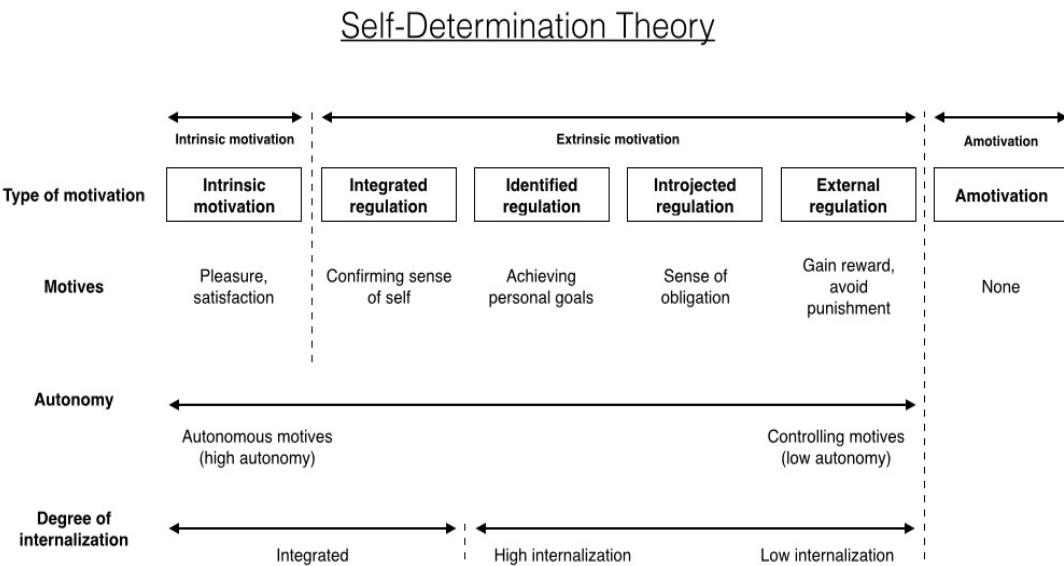
Self-determination Theory

Self-determination theory is one of the most influential theories of motivation in sport and exercise psychology (Chatzisarantis & Hagger, 2007). Deci and Ryan (1985) distinguished two types of motivation: intrinsic and extrinsic motivation. According to Deci and Ryan, there are three psychological needs that motivate the self to initiate behavior and enhance motivation in the direction of self-determination, all of which are essential for the psychological health and well-being of the individual: perceptions of competence (interacting effectively with the environment), autonomy (feeling free to choose one's own course of action), and relatedness (feeling connected to significant others).

The self-determination theory (SDT) proposes that motivation is multi-dimensional and is a continuum of self-determination, ranging from amotivation through extrinsic motivation to intrinsic motivation (Deci & Ryan, 1985; see Figure 3).

Figure 3

Self-determination Theory (Deci & Ryan, 1985)



Intrinsic motivation generally refers to performing an activity for itself, as well as for the pleasure and satisfaction derived from participating in such activity (e.g., Deci, 1975; Deci & Ryan, 1985). Athletes who engage in their sport because of the pleasure they derive from it exemplify individuals who act out of intrinsic motivation. In contrast, extrinsic motivation refers to engaging in an activity as a means to an end and not for its own sake (Deci, 1975).

Extrinsic motivation characterizes activities that are performed in order to obtain some separable and external outcome, whether it be a reward, avoidance of punishment,

attainment of recognition or approval (Ryan, Williams, Patrick & Deci, 2009). Athletes who participate in sport simply to please their parents or friends exemplify individuals who act out of extrinsic motivation (Vallerand, 2001). There are various levels of external forces and behavioral regulation in extrinsic motivation.

External regulation: This is a highly controlled form of extrinsic motivation such as when a person plays hard because the player expects to be rewarded for reaching an externally-defined goal.

Introjected regulation: A person is controlled by the internal contingencies of reward and punishment. Some athletes often perform to reward themselves for reaching their goals with pride, but also act to avoid guilt.

Identified regulation: A person engages in an extrinsic action because he (or she) identifies with its purpose and value. Some exercisers believe that exercise enhances their energy and health (extrinsically motivated, but also autonomous).

Integrated regulation: This is the most autonomous form of extrinsic motivation. A person can coordinate and assimilate the regulation of exercise into his/her overall life goals and style of living.

Amotivation is literally having no motivation to carry out an activity. This is at the lowest end of the motivation continuum. Amotivation reflects a lack of intention, regulation and self-determination.

Self-determination Theory in Sport and Exercise Psychology

Self-determination theory (SDT) is an increasingly popular theory in sport and exercise psychology. This theory suggests that self-determined motivation leads to

positive behavioral (e.g., persistence), cognitive (e.g., interest and enjoyment), and psychological (e.g., wellbeing) outcomes. In contrast, any behavior that is low in self-determination (i.e., actions controlled by external contingencies) has been shown to have negative psychological (e.g., ill-being), cognitive (e.g., attention) and behavioral (e.g., drop-out) outcomes (Gillson, Standage, & Skevington, 2006).

Many researchers have emphasized self-determination theory or the importance of self-determined motivation in sport and exercise settings (Edmunds, Ntoumani, & Duda, 2006; Thorgersen-Ntoumani & Ntoumanis, 2006). In particular, self-determination theory (Deci & Ryan, 1985) helps one understand sports and exercise motivation and adherence. Some studies have shown that intrinsic motivation is important for long-term exercise and sport participation (Ingledeew, Markland & Medley, 1998; Ryan, Frederick, Lepes, Rubio, & Sheldon, 1997; Thorgersen-Ntoumani, & Ntoumanis, 2006).

Ryan, Frederick, Lepes, Rubio, and Sheldon (1997) found that high adherers (long-term adherence) had a higher level of enjoyment, competence, and social motives than low adherers. Specifically, Ryan et al. (1997) showed that Tae Kwon Do participants had higher enjoyment and competence motives and lower body-related motives than aerobics participants. The former group also showed better adherence. The analyses revealed that Tae Kwon Do participants are better adherers, and that group differences in adherence were mediated by enjoyment motives. Body-focused motives were unrelated to adherence. Adherence was associated with motives that focused on enjoyment, competence and social interaction, but not with motives that focused on fitness or

appearance. Hence, Ryan et al. (1997) concluded that intrinsic motivation (e.g. enjoyment) is important to exercise-adherence.

Ingleedew, Markland and Medley (1998) also examined how exercise motives differ across stages of change (at baseline and at 3-month follow-up) among British government employees. The results showed that extrinsic (e.g., body) motives dominate during the early stages of exercise adoption, but that intrinsic (e.g., enjoyment) motives are important for progression and maintenance of actual activity. In other words, whereas appearance and weight management motives were prominent during the early stages of change, enjoyment motives were important for progression and maintenance of actual activity.

Thorgersen-Ntoumani and Ntoumanis (2006) found that participants who were in the maintenance stage of exercise (i.e., exercising for more than 6 months) had higher intrinsic motivation for exercise but with lower external regulation. Participants who were in the maintenance stage of exercise had higher intrinsic motivation for exercise, higher identified and introjected regulation, and lower external regulation with less amotivation.

Barbeau, Sweet, and Fortier (2009) investigated psychological needs and satisfaction, self-determined motivation, and physical activity participation at an initial time point with a one-month follow-up among 116 undergraduate students. They found that the basic psychological needs predicted higher self-determined motivation in physical activity participation one month later. Competence was the strongest predictor of

self-determined motivation, although autonomy and relatedness were also significant predictors.

Thus, many studies have emphasized that intrinsic motivation helps long-term adherence in sports and exercise settings, and continues to provide support for the application of the self-determination theory.

Self-determination Theory in Elite Athletes

Even though research into the self-determination theory in the context of sport and exercise has increased dramatically in recent years, the majority of such research has been conducted among recreational or non-elite athletes (Treasure, Lemyre, Kuczka, & Standage, 2007). Elite-level performers represent a very small but interesting population. The impact of competition on motivation is complicated. They face many challenges on an almost daily basis. Extreme training loads, injuries, and competition schedules amount to a unique lifestyle from a motivational point of view. It is not surprising that the motivational profile of elite athletes is different from the motivational profiles of recreational or non-elite athletes (Chatzisarantis & Hagger, 2007).

Some researchers have demonstrated that elite athletes display very high levels of both extrinsic and intrinsic forms of motivation (Chantal, Guay, Dobreva-Martinova, & Vallerand, 1996). This profile can be easily explained on the basis of the nature of competitive sport structures. Competitive contexts may have both “informational” and “controlling” aspects (Deci & Ryan, 1985). The informational component is linked to the idea that competitive environments offer optimal challenge and competence feedback, thus allowing athletes to have feelings of efficacy, thereby enhancing intrinsic motivation.

However, competition often includes controlling components, as people feel pressured to win, either from others or from their own “ego involvement” (Ryan, 1982). Thus, competitive settings are typically expected to undermine intrinsic motivation, whereas task involvement and mastery regardless of the outcome can maintain or even enhance intrinsic motivation (Ryan & Deci, 2007).

However, elite athletes who have high levels of extrinsic motivation may not necessarily find it beneficial for their psychological well-being and long-term adherence to sport. Indeed, some researchers have shown that extrinsic motivation may facilitate sport dropout as well undermining psychological well-being (Gagne & Blanchard, 2007; Sarrazin, Boiche, & Pelletier, 2007).

Pelletier, Fortier, Vallerand and Brie're (2001) examined the relationship between motivation and drop-out in athletes. They found that persistent athletes were more intrinsically motivated and identified, and less externally regulated and amotivated toward their sport, when compared to dropout athletes. Persistent athletes also reported that their coaches were more autonomy-supportive and less-controlling than those of dropout athletes.

Pelletier, et al. (2001) also showed that introjected regulation and external regulation were positive predictors of persistence in competitive swimming in the short term (10 months), but became non-significant predictors in the long term (22 months). Moreover, external regulation was not a significant predictor of behavior at Time 2(10 months later), but became negatively associated with persistence at Time 3(22 months later). However, competitive swimmers who exhibited self-determined types of

regulation (intrinsic motivation) at Time 1 showed more persistence at both Time 2 (10 months later) and Time 3 (22 months later).

Treasure, Lemyre, Kuczka, and Standage (2007) also suggested that burnout in athletes is associated with high levels of extrinsic motivation and amotivation. It seems therefore that maladaptive training will more likely shift to a more extrinsic motivational regulation, representing decreased levels of relative autonomy (Chatzisarantis & Hagger, 2007).

Some studies have demonstrated that intrinsic motivation (e.g., enjoyment) of physical activity can increase among participants in the long term, while appearance orientation may reduce intrinsic motivation and promote extrinsic regulation and amotivation (Gillison, Standage, & Skevington, 2006; Ingledew & Markland, 2008). For example, Ingledew and Markland (2008) surveyed 252 office workers and found that the appearance/weight motive increased external regulation (thereby reducing participation) and raised introjected regulation. The health/fitness motive raised identified regulation, thereby increasing participation. The social engagement motive increased intrinsic regulation. Thus, Ingledew and Markland (2008) concluded that while the motives of appearance and weight loss might be a powerful means of engaging individuals in exercise in the first instance, these motives are unlikely to sustain participation in the long term.

Moreover, Gillison, Standage, and Skevington (2006) found that self-determined motivation also partially mediated the effects of exercise goals and quality of life. For example, a composite of fitness, mood, health, and enjoyment motives was positively

related to relatively autonomous regulation, whereas a composite of weight control, attractiveness, and body tone motives was negatively related to autonomous regulation. Gillison et al. (2006) showed that in adolescents, extrinsic goals were negatively predicted, whereas intrinsic goals were positively predicted, while self-determined motivation in turn positively predicted quality of life and exercise behavior. So, Gillison et al. (2006) suggested that teachers and parents need to encourage young people towards intrinsic goals in an attempt to enhance future exercise behavior and quality of life.

Summary

Over the past 30 years, many scholars discussed the role of self-perceptions and body image in sports. Overall, while some studies showed sport reinforced positive self-perceptions and body image, other scholars revealed that some sports influenced negative self-perceptions and body image. Several scholars have demonstrated that physical activity can positively enhance self-perception, self-concept or self-esteem (Malete et al., 2008; Marsh, 1998; Sonstroem, 1984; Trujillo, 1983). Similarly, some research has demonstrated that athletes have higher self-perceptions than non-athletes (Evan et al., 2007; Marsh, 1998; Marsh et al., 1995; Park, 2010).

Scholars, however, have shown gender differences in physical self-perceptions. Some research has revealed that male athletes have higher self-perceptions than female athletes (Lee, 2009; Park, 2010). Particularly, athletes who participate in aesthetic sports or hyper-female-sports, such as gymnastics, figure skating and dance, experienced more body dissatisfaction than participants in other sports (Reel & Gill, 1998; Reel et al., 2005; Swami et al., 2009). Athletes in aesthetic sports have reported higher weight concerns,

and a higher risk of developing eating disorders (Reinking & Alexander, 2005; Torstveit et al., 2008).

Most of the existing research on self-perception and body image in sports has been conducted in North America and Europe, and it is rare to find studies in non-western countries. Moreover, outside Western society, there are only few studies to date that describe the relationship of the athletes' self-perception and body image in female aesthetic sports.

Self-determination theory (Ryan & Deci, 2002) is the most popular theory today in the study of motivation in sport and exercise psychology. Some studies have revealed that intrinsic motivation (e.g., enjoyment of physical activity) can increase participation in the long term while appearance orientation may decrease intrinsic motivation and promote pressure and amotivation. So, the appearance motive is unlikely to sustain participation in the long term with regard to sports and exercise. Thus, some researchers have suggested that exercise promotion programs should encourage the well-being and enjoyment benefits of exercise rather than the appearance/weight motive.

CHAPTER III

METHODS

There were two primary research objectives investigated in this study. First, the factors important for a good performance in rhythmic gymnastics were investigated. Specifically, the degree of emphasis on appearance and body ideals among gymnasts was of interest. The second objective of the study was to investigate the motivation for continued participation, and reasons for ending involvement in rhythmic gymnastics. In order to understand body image and motivation in rhythmic gymnastics, qualitative research methods including case studies, observations, field notes and interviews were utilized in this study.

Qualitative Research

Quantitative and qualitative research methods have different philosophies and goals. The purpose of quantitative study is mainly to examine and compare related variables or constructs. Quantitative research is associated with the deductive testing of relationships or theories (Creswell, 2008). The purpose of qualitative research, however, is to obtain information about the central phenomenon explored in the study, the participants in the study, and the research site itself (Schwandt, 2007). Particularly, qualitative research can focus in on an individual phenomenon, concept or idea, which means that it focuses less on relating two or more variables, or comparing two or more groups for understanding a larger reality (Creswell, 2008).

Naturalistic researchers prefer the qualitative tools of observation, questioning and description, and assume that reality constantly changes and can be known only indirectly, through the interpretations of people (Rubin & Rubin, 2011). Naturalists accept the possibility that there are multiple versions of reality. For the naturalist researcher, the goal is to discover what is embedded in a complex and changing reality. Naturalist researchers seek to explain what they have seen, regardless of whether their findings can be extended beyond the time and circumstances of the current study.

Qualitative methods likely hold more advantages over quantitative methods in terms of studying the critical, feminist, and postmodern perspectives. First, the critical perspective maintains that the purpose of research should be discovery and remediation of societal problems (Kincheloe & McLaren, 2000). Critical researchers argue that research should address past oppression, bring problems to light, and help minorities, the poor, the powerless, and the silenced. Knowledge is considered subjective, depending on whose perspective you take, and whose eyes view it (Rubin & Rubin, 2011). In this study, the aesthetic athletes described their experience with social oppression from a variety of sources. The oppression of aesthetic athletes, however, has mostly been ignored by sport scholars. Using the critical perspective, researchers could describe how these athletes have personally experienced oppression, and investigate the problems that other scholars ignore, in order to establish meaning from the personal experiences of these individuals and understand their point of view.

Second, as a part of the critical perspective, feminist researchers generally pay particular attention to issues of dominance and submission, especially when gender is

involved. Qualitative interviews allow feminist researchers to challenge cultural assumptions embedded in the questions, and to answer from their own experience (Rubin & Rubin, 2011). Several research studies have been conducted to reveal the role of gender in sports. In this study, rhythmic gymnastics, which is dominated by female participants, was investigated, revealing a particular emphasis on hyper-femininity and extreme body thinness. The feminist critical perspective, therefore, could be an extremely valuable approach to investigate ‘power’ relationships surrounding rhythmic gymnasts.

Finally, the postmodernist perspective of qualitative research rejects most of the beliefs of positivism. Postmodernism assumes that reality is not fully knowable and that truth is impossible to define. Postmodernists argue that neutrality is impossible, because everyone has interests and attitudes that shape their view of the world around them (Rubin & Rubin (2011)). They suppose that there are numerous diverse groups in this world, and we must recognize the wide variety of voices and opinions that exist. The postmodern feminist perspective, then, places importance on the accurate representation of ‘multiple voices’ and ‘women of color’ in research and literature. This perspective’s focused inclusion of oft-neglected social groups displays a valuable advantage of qualitative methods over quantitative methods.

Case Study

Case study research is one of several forms of social science research. The definition of a case study includes the notion of “in-depth” inquiry, where the phenomena being studied involve the “case”, the “triangulation of evidence” and “more variables of interest than a data points” (Yin, 2014). Case study research is the preferred method in

situations where (1) the main research questions are “how” or “why” questions, (2) a researcher has little or no control over behavioral events, and (3) the focus of study is a contemporary phenomenon (Yin, 2014).

A case study also allows investigators to focus on an “case” yet retain a holistic and real-world perspective, such as in studying individual life cycles, small group behavior, organizational and managerial processes, neighborhood change, school performance, international relations, and the maturation of industries (Yin, 2014).

Case study evidence can come from many sources: documentation, archival records, interviews, direct observation, participant-observation, and physical artifacts (Yin, 2014). In this study, in order to understand body perceptions and motivation in rhythmic gymnastics, case study (including observations and interviews) has been utilized. The research also focused on a particular population group, female college rhythmic gymnasts in South Korea, in order to provide deeper insight.

Observations

Setting

According to the Korea Gymnastic Association (<http://www.gymnastics.or.kr>), there are three different types of gymnastics: artistic, aerobic and rhythmic. Rhythmic gymnastics is comprised of two categories: the individual competition, and the group competition. In 2016, there were 76 male and 48 female gymnastic student-athletes in universities throughout South Korea. Among these 124 college gymnasts, there were only five colleges and 16 female student-athletes enrolled as elite rhythmic gymnasts in 2016. As part of the investigation to understand the relationship between body image and

motivation in rhythmic gymnastics, over the course of several weeks, I observed the practices of a team of six rhythmic gymnasts at S University in Seoul, South Korea.

Steps Taken to Gain Entry to the Setting

During a pilot study in 2013 on the same topic, five former rhythmic gymnastics athletes and current instructors were interviewed. One interviewee was a former Olympic athlete and current college coach in rhythmic gymnastics in South Korea. At that time, this coach was asked if she would be willing to assist with a follow-up study. The agreement was verbal and unofficial, but the research relationship was maintained, and she later granted permission for further observations and interviews in the summer of 2016 at S University, which is where the field work was ultimately conducted.

Participants

The identities of all participants in the study are to remain known only to the primary investor. All participants were made aware that their participation was voluntary and that no specifically identifying information about them would be released in reports. For purposes of better understanding the participants, context and results of the study, however, all participants in observations and interviews have been given aliases to which they will be referred throughout the research.

Participant 1 (Junga). At the time of the interview, Junga was a sophomore at S University in Seoul, South Korea. She learned tap-dance in the United States while in the second grade of elementary school. She then came to Korea and started learning gymnastics at a local institute. Her mother started her with rhythmic gymnastics because she thought that artistic gymnastics was not beautiful. Gymnastics was very enjoyable to

her and she requested her mom to allow her to continue with the sport. There was a rhythmic gymnasium near her house, where she could continue with rhythmic gymnastics practice. When she was in junior high school, she was selected as a top representative and trained as a youth representative for the sport. She was also given the opportunity to practice with the national team under the guidance of the national coach. Junga was Interviewee 1.

Participant 2 (Sunyun). During the field study, Sunyun was a junior at S University in Seoul, South Korea. She was a track and field athlete from the first grade through the third grade of elementary school. Her sister was also a track and field athlete, so her sister's influence was particularly significant. Sunyun was a good athlete until the second year of junior high school, but then in her third year she suffered a severe injury. Her dream was to become a national representative, but she had to give it up because of her injury. Sunyun was Interviewee 2.

Participant 3 (Miran). Most of her colleagues started rhythmic gymnastics during elementary school, but she began rhythmic gymnastics later, during the second year of middle school. Flexibility is important in rhythmic gymnastics, and increasing one's flexibility as a teenager is difficult. She knew that she could not become a national representative given her limited ability. Although she started rhythmic gymnastics late compared to the other gymnasts, she still managed to earn an award in gymnastics, and then applied for college as a rhythmic gymnast. Miran was Interviewee 3.

Participant 4 (Sunghye). Sunghye was in her freshman year at S University, Seoul, South Korea at the time of the interviews and observations. She graduated from S.

J. Elementary School, the most famous school for rhythmic gymnastics in South Korea. She started rhythmic gymnastics in the third grade of elementary school, and then began during the fourth grade as an elite rhythmic gymnast. Her favorite apparatus is the clubs. She said that although sometimes she got hurt because of a club, the joy of succeeding kept her going. Also, she admitted that she did not need to worry much about her weight, so her other colleagues were often jealous of her. Sunghye was Interviewee 4.

Participant 5 (Jisun). When interviewed, Jisun was a junior, and the team leader of the rhythmic gymnastics team at S University in Seoul, South Korea. She started rhythmic gymnastics due to the recommendation of a physical education teacher in the fourth grade of elementary school. When she was in junior high school, she was selected for the elite youth team where she participated in competitions abroad. She also represented her country in the world championships. Jisun was Interviewee 7.

Participant 6 (Ohjung). Ohjung first learned rhythmic gymnastics when she was in the second grade of elementary school, and then started as an elite athlete in the fourth grade. She was a junior at S University in Seoul, South Korea at the time of the study. She was also an active national representative in rhythmic gymnastics at that time. Ohjung has spent a significant amount of time training in Russia during her summer and winter vacations ever since her fifth-grade year in elementary school. She became a national representative during her first year of high school, and trained at the Korean Olympic training center. Ohjung was Interviewee 8.

Data Collection

After obtaining IRB approval (July, 14 2016), a total of seven separate observations were conducted. At the first observation, a brief explanation of the study was provided student athletes were informed that participation was voluntary, and that all names and identifying information would not be included in any reports. It was explained that the purpose of the study was to better understand rhythmic gymnasts' experiences and motivation. After all participants and the coach agreed to the study, observations began. The athletes knew that they were being observed, and were instructed by the coach to behave as usual. I was the only researcher for this study, and did not interfere with the participant's practice sessions while I observed and took field notes.

Throughout the observations, the focus was on athletes' interactions, behaviors, and conversations between them and their coach. The observations were guided by the following questions: 1) What are the important factors for good performance in rhythmic gymnastics? 2) How important is body appearance, physical size or shape in rhythmic gymnastics? 3) How do athletes interact with their coach and other gymnasts? 4) What motivates the athletes to practice?

Interviews

Recruitment Procedures

After approximately one month of field observations, the participants were very comfortable being observed and with my presence. After a rapport was established, I began recruiting for individual interviews before and after sessions, and during breaks.

All six athletes at S University were individually interviewed, as well as nine additional rhythmic gymnasts from other colleges.

Snowball sampling was used to recruit additional interviewees outside of S University. Each interviewee was asked to help identify other participants within the sport who might be willing to be interviewed. The interviewees not only recommended potential participants, but proactively recruited them for the study. The total number of Korean elite gymnasts' is limited, so most gymnasts know one another, even if they attend different schools. Thus, snowball sampling was an appropriate and effective technique for participant recruitment within the small population group.

Table 1

Complete Listing of Interview Participants, Year, and College Attended

Interviewee	Alias	Year	College	Notes
Interview 1	Junga	sophomore	S University	
Interview 2	Sunyun	junior	S University	
Interview 3	Miran	sophomore	S University	
Interview 4	Sunghye	freshman	S University	
Interview 5	Sunhee	sophomore	D University	former athlete(injury)
Interview 6	Eunjoo	freshman	D University	
Interview 7	Jisun	junior	S University	
Interview 8	Ohjung	junior	S University	
Interview 9	Hunhee	sophomore	K University	
Interview 10	Miseong	sophomore	D University	former athlete(injury)
Interview 11	Yoonkyung	senior	E University	retired athlete
Interview 12	Eunhye	sophomore	H University	
Interview 13	Nayoung	senior	H University	Retired athlete
Interview 14	Youngshin	junior	K University	former athlete(injury)
Interview 15	Nahyun	junior	E University	

Informed consent forms were provided to all rhythmic gymnasts who participated in the interviews. This form indicated the voluntary nature of their involvement, and only those who agreed and signed were interviewed. Table 1 provides a complete list of all interview participants.

Data Collection

Patton (2002) categorized interviews into three general types: (a) the informal, conversational interview; (b) the semi-structured interview; and (c) the standardized and structured interview. In this study, because body perception was a sensitive topic to discuss for female athletes, semi-structured interviews were used to provide relative structure. Pre-determined questions were followed by more probing questions as needed to ask student-athletes to elaborate in more detail.

Each interview was originally conducted and transcribed verbatim in Korean, and later translated into English at the drafting of result stage. Each participant was interviewed in-person, privately in one-on-one 60-90 minute sessions. After obtaining permission, interviewees were digitally recorded, and the audio was later transcribed and sent to participants for review.

Contact information such as name, address, e-mail or phone number was collected. Personally identifiable information has not been shared with anyone other than the interviewer, and no identifying information has been included in any research reports. The interviewees remain anonymous, and all interview data has been secured in a locked file cabinet in researcher's office in South Korea. Table 2 indicates an overview of the data collection, while Table 3 provides the timeline and sequence for the research.

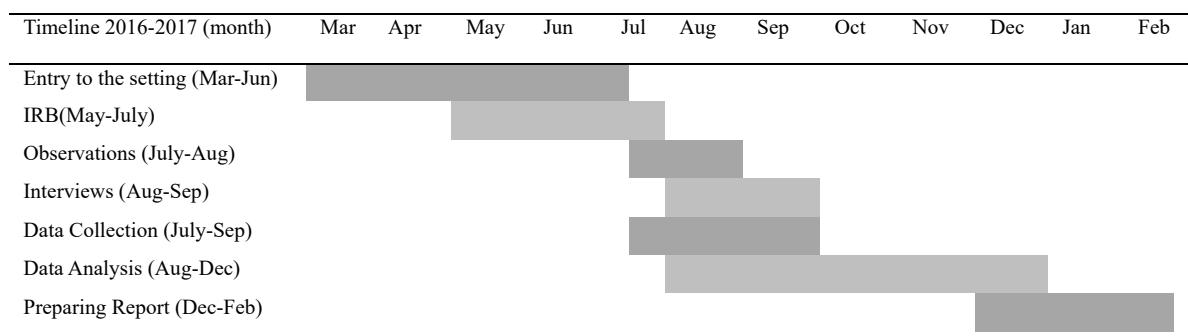
Table 2

Observation and Interview Data Collection Overview

Data Collection	Participants	Time	Place
Observations	6 rhythmic gymnasts in a college in South Korea	60-90 minutes per session	A gym, S university, Seoul, South Korea
Individual Interviews	15 rhythmic gymnasts (6 rhythmic gymnasts from S university and 9 rhythmic gymnasts at various colleges)	60-90mins per session	A quiet place or private room (e.g. college class room, library study room, café, etc.)

Table 3

Timeline and Sequence for Research



Interview Questions

For this study, a series of open-ended interview questions were created based upon the research questions in the study. The lead questions of the individual interviews were set, but follow-up questions varied depending on the responses of the participant (semi-structured interviews). Table 4 shows examples of the interview questions.

Table 4

Example of Interview Questions

Important Factors for a Good Performance in Rhythmic Gymnastics
<ol style="list-style-type: none">1. What are the important factors for a good performance at the highest levels of rhythmic gymnastics?2. What is the ideal body type for rhythmic gymnastics?<ol style="list-style-type: none">a) What do you think that others (e.g. coach, parent or peer) might say about the ideal body?b) How would you compare your body to the ideal body for rhythmic gymnastics?3. What strategies do you use to modify your body or appearance for best performance?4. What strategies do others (peers) use to modify their body or appearance for best performance?
Motivation
<ol style="list-style-type: none">5. What is the main reason you decided to participate in rhythmic gymnastics?6. What motivates you to continue participating?<ol style="list-style-type: none">a) What do you love about the sport?b) What do you dislike about it?c) What is difficult in rhythmic gymnastics?7. Have you ever thought about stopping rhythmic gymnastics? If “yes”, what would lead you to stop rhythmic gymnastics?

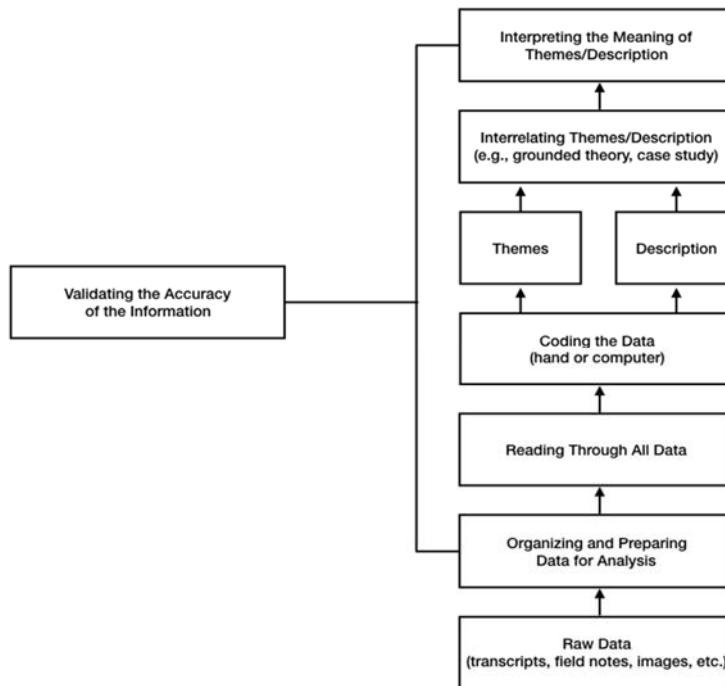
Data Analysis

Qualitative data analysis can be conducted concurrently while gathering data, making interpretations, and writing. In general, there are two processes of coding: open coding and axial coding. In this study, the open coding procedure was used iteratively to identify relevant data categories. Codes and emerging categories were constantly compared across events, behaviors, and words. The codes were grouped according to conceptual categories that reflected commonalities among codes. Axial coding was then used to generate interpretations of the categories, properties, and dimensions identified

during open coding (Corbin & Strauss, 2007). The codes were then clustered around points of intersection (Marshall & Rossman, 2011).

Figure 4

Data Analysis in Qualitative Research (Creswell, 2009)



Creswell (2009) suggests a linear and hierarchical process of data analysis in qualitative research (Figure 4). This general guideline was utilized throughout the data analysis stage of this study. First, the data was prepared and organized for analysis, which involved preparing the transcriptions of interviews and field notes taken as part of the research.

After preparing the reports, the data were carefully organized and a coding process was developed. This coding process was used to develop categories and themes

for analysis. The descriptions of each code involved a detailed rendering of information about the people, places, and events in a particular setting. At the next stage, a detailed discussion of emergent themes and relationships between variables was written. The final step involved interpreting and concluding significant results from the data. Open and axial codes entail uncovering patterns, themes, and categories (Patton, 2002). As a result, central themes in this study were developed in relation to the research questions.

Each interview was originally conducted and transcribed verbatim in Korean, and later translated into English. To minimize data contamination, and to keep the foundation of analysis as close as possible to participants' voices and their cultural context, the analysis/coding process was conducted by using participants' original narratives (in Korean) without translation.

The translation of Korean into English of participants' narratives was done at the later stage of writing the draft of results. Back-translation techniques were employed in this study to maintain translation quality and equivalence between source and target versions. Back translation first translates the input language (Korean) into the target language (English), and then translates the target language (English) back into the input language (Korean) using different translators, in order to ensure accuracy

Trustworthiness of the Data

Lincoln and Guba (1985) recommended that qualitative researchers need to be in the setting for a long period of time (prolonged engagement), share data and interpretations with participants (member checks), triangulate by gathering data from multiple sources, through multiple methods, and using multiple theoretical lenses, and

discuss their emergent findings with peers, to ensure that analyses are grounded in the data (peer debriefing) (Marshall & Rossman, 2011).

To ensure trustworthiness of this research, “triangulation,” “member checking,” “peer debriefing,” “rich and thick description,” and “clarified the bias” were used. First, data were collected from multiple sources, which included seven observations and fifteen participant interviews. Secondly, “member checking” was utilized to determine the credibility of the research findings. After recording the interviews, transcriptions were made and emailed to participants. Then, secondary interviews were conducted with select participants in order to clarify questions about the athletes’ experiences. Participants were met with individually to discuss interpretations for accuracy. Participants were contacted again for supplemental information if any content in the recordings was unclear, or to clarify meaning of interview responses.

Third, external auditors were contacted to review the entire project. Throughout the study, the researcher consulted with three peer reviewers to control her own bias in interpreting data. The researcher met regularly with three peer reviewers to discuss findings and interpretations. Auditors involved in the peer-debriefing were not specialists in rhythmic gymnastics, but they had each had a Ph.D. degree in Kinesiology, and had qualitative research experience in South Korea. The peer reviewers read data segments and themes, and evaluated possible findings with the researcher. This comprehensive review by peers provided redundant checks for trustworthiness of the data throughout all stages of the research process.

Fourth, rich and thick descriptions of my observations were provided in the form of detailed field notes and reports that described interviews and interactions with participants. Finally, personal biases were examined and clarified to ensure that an open and honest analysis was maintained. Background, such as gender, ethnicity and history, all have the potential to affect the interpretation of findings, and these potential conflicts were carefully considered throughout the research process.

Self-reflection

I was born and raised in Seoul, South Korea. I pursued my undergraduate degree in South Korea, and I am seeking a Ph.D. degree at the University of North Carolina at Greensboro in the United States.

My mom was a former basketball player in the 1960s and 1970s in South Korea, and in the 1980s, in my period of elementary school, I was always the tallest female student of the same age. When I was in fourth grade, I was already taller than the average of Korean adult woman (5ft, 160.8cm). However, I grew faster in addition to taller. I heard from others that I should stop growing because if I am taller than men, it is hard to be married. Tiny girls are more popular than big girls. So, I was seriously concerned about my body size and how I could stop growing since I was 10 years old.

After 1988, the Seoul summer Olympic Games, South Korea become more westernized and western culture has influenced life in South Korea. In the early 1990s, in my junior high school, suddenly Miss Korea (same as the Miss U.S.A) and fashion models became popular in the media. My friends and neighbors suggested that I was qualified because of my height (5'9", 177cm). I was offered an opportunity to train to be

a professional fashion model in South Korea. At that time, one of the famous fashion model companies was looking for beginners, and my high school principal recommended me because I was the tallest in my high school. I was a little confused and surprised that standards of beauty changed in such a short period time. Since I was a teenager, I have experienced changes in social norms as well as in the standards of beauty over time.

I entered the women's college in South Korea. When I was an undergraduate student, my major was sport and leisure science in Kinesiology, and one of my dreams was to be a baseball judge. I also liked to dance, so I applied to the cheerleader club in college when I was a freshman, and I was selected as a member of the cheerleader team of my university. Even though I was attracted by the dynamic dance of cheerleaders, I didn't realize I would have to dress in a short skirt as a uniform before passing the audition. I did not feel comfortable about the sexualization of the body through uniform and dance. Eventually, I left the club in a month. After freshman year, I received several proposals to train as a professional cheerleader and model. However, I refused flatly because after my experiences of training at a fashion model academy in high school and withdrawing from the cheerleading team as a freshman, I realized that our body culture promotes gender roles and fosters unrealistic sexualized bodies.

Before 2000s, there was low participation of sports and exercise for girls and women in South Korea. However, female participation in sports and exercise has risen dramatically today. It is not unusual to see female exercisers in the gym and park in Seoul, South Korea. I often feel that more female participants are currently on the treadmill and cycle ergometer as well as in group exercise programs. After my M.A. degree from Ohio

State University, in 2009, I have taught Taekwondo for adult classes in South Korea. I was glad and surprised that there were some teenage girls who would like to learn Taekwondo at night. So, whenever I met a teenage girl, I asked what is the main reason for exercise, and most of them answered because of losing weight. Most females would like to have a slim body and lose weight even though their B.M.I (Body Mass Index) is in a healthy range.

After my teaching Taekwondo experience, I had a question about how people consider body image. It seemed that female participants consider appearance and body size are more important than health in sport and exercise. So my past experiences might affect my interpretations. However, I tried my best to listen and describe the participants' experiences about body image, appearance, what they like and how they feel in rhythmic gymnastics in the research.

I am a native Korean language speaker and I am able to speak the same language (Korean) as interviewees so there were no language barriers in data collection. Also, even though my major is sport psychology, I had no experience as a student-athlete or as a gymnast. This lack of experience might help me to be unbiased in rhythmic gymnastics environments, but it might also influence my interpretations, because I was a view through the lens of an outsider.

However, even though I did not have experience as an athlete, I might be not a complete outsider to rhythmic gymnastics. I had known several rhythmic gymnasts over the last 10 years. My former Korean college adviser in South Korea, for example, was a former gymnast on the national level, and many of her students were rhythmic gymnasts

or dance majors. Also, several of my Korean colleagues are currently involved in gymnast associations as instructors and judges. I have, therefore, discussed the issues surrounding rhythmic gymnastics, gymnastics and aesthetic sports many times. Those experiences might also influence my interpretations of the results as I view them partially through the lens of an insider in the research.

CHAPTER IV

RESULTS

The purpose of this research was to understand body perceptions and motivation in rhythmic gymnastics. Specifically, this research utilized the distinct population group of college level female rhythmic gymnasts in South Korea in order to better understand body image and motivations for participation in the sport. There were two primary research objectives investigated in this study. First, the important factors for a good performance in rhythmic gymnastics were investigated. For the purposes of this study, a good (or successful) performance in rhythmic gymnastics is one in which athletes are able to score high during competition, and make few mistakes in their routines. Of particular interest for this first research question was the level of importance placed on body appearance (e.g., physical size or shape) in rhythmic gymnastics by gymnasts. The second objective of the study was to investigate the motivation for continued participation, and reasons for ending involvement in rhythmic gymnastics. Observations, field notes, and interviews were utilized to gather qualitative data for this investigation, and resulting information has been organized according to both a case study and categorical approach. A brief case study of a typical rhythmic gymnastics session will be introduced to provide contextual understanding of the basic activities involved in the sport, and to better understand the interpersonal relationships among the rhythmic gymnasts in this study. A secondary case study will also be provided which provides

particular insight as to the motivation of players during practice sessions. Specific categories will be identified which relate directly to the research questions of performance factors and motivation for participation. Each category will be supported with examples from observations and interviews to provide evidence to answer these research questions.

Factors for a Good Performance in Rhythmic Gymnastics

In this section I will answer the first research question, describing the important factors for good performance in rhythmic gymnastics. Specifically, I will also provide answers to the question, “How do rhythmic gymnasts perceive the importance of body appearance (e.g., physical size or shape) in the sport?” Observations and interviews indicated appearance and flexibility were the key variables for a successful performance. A case study of a typical rhythmic gymnastics session has been provided in order to give insight into the typical activities, behaviors and interactions of athletes. Observation 1, and the related field notes and reflections provide an excellent case study to understand the sport, and also give insight into the importance of both appearance and flexibility for a good performance. Following the case study, a categorical description of the important factors for a good performance will be provided, breaking down each variable into subcategories important for deeper understanding of the topic.

Case Study of a Typical Rhythmic Gymnastics Practice

Throughout the course of this study, seven separate practice sessions were observed at S University in Seoul, South Korea over a six-week time period (See Appendix A for detailed field notes on all sessions). Six athletes in total were participants

in the team that was observed. A typical practice session was attended by four to six of these team members, and for the majority of sessions the coach was not present, and the team was led by a student team leader instead.

While each session had a slight variety in structure and time spent on each activity, every practice consisted of five primary components. Flexibility training, use of apparatus (ribbons, balls, clubs, hoola hoops), routine practice, synchronized movement and teamwork were key elements of each practice. Rhythmic gymnasts are required to be much more flexible than the general public, and they must work at this flexibility constantly, which is why flexibility training is included in every session. Therefore, development of flexibility and stretching exercises, either through independent exercise or practiced with partners, is highly typical in rhythmic gymnastics practice.

The practice, use, or research of how to use various apparatus was also included in each session, although the type of apparatus and time spent practicing with it varied depending on the meeting. Practicing of a previously choreographed routine was also a fundamental part of each meeting. Sometimes, this routine practice was done to music, sometimes it was done to simple counts, and sometimes only one or a few of gymnasts would participate repeatedly until they mastered the particular skill. Especially during the use of apparatus and routine practice, a synchronized movement was essential. Athletes needed to be able to identically imitate or mirror each other's motions perfectly. They would practice their motions repeatedly, record themselves on video, and use observers to ensure that the appearance of their movements were smooth and synchronized.

Teamwork is essential in this sport, as all members must perform well both individually,

and as a group in order for the team to be successful. Thus, the interaction between team members, the respect of the team leader, and the ability for all gymnasts to be able to identify, brainstorm, critique and find solutions for difficulties is a key component of each meeting.

Details from Observation 1, completed on July 18, 2016, at 10:30 am in the S University gymnasium, where five athletes were present, displayed a number of activities that take place during a typical rhythmic gymnastics practice, and serves as a reliable case study for better understanding the sport. Before the Observation 1 practice started, it was clear that flexibility was very important to rhythmic gymnastics, as the athletes were stretching in order to become as limber as possible before the practice even began. Once practice started, as part of warm-up activities, the athletes performed various types of splits, always maintaining their toes in a pointed position. Sometimes they stretched on the mats, sometimes they utilized the bar, and sometimes they stood next to the bar for various movements. When the athletes practiced kicking their legs into the air sideways, they were able to go high enough so that their thighs touched their ears. It was clear that they understood the importance of flexibility for success.

During Observation 1, five gymnasts practiced a routine involving apparatus (in this case ribbons), which was representative of the routine practice, apparatus and synchronized appearance components of a typical practice. While three gymnasts practiced, two gymnasts watched and provided feedback, which is indicative of the teamwork component of a typical practice session. The athletes seemed to work well together, however, two of the gymnasts seemed to be older than the others, and the

younger gymnasts respected them and listened to them more. If any of the gymnasts performed an incorrect move, they would all stop their practice and exchange ideas about how they could improve. They appeared to get along well, and were dedicated to improving their activity, even if that meant repeating the routine multiple times until one particular gymnast could master their movement.

Field Notes for Observation 1: Ribbon Practice.

Date / Time: July 18, 2016, 10:30 am

Place: Gym, S University, Seoul, South Korea

Participants: 5 athletes (Jisun – leader, Junga, Sunyun, Miran, Sunghye)

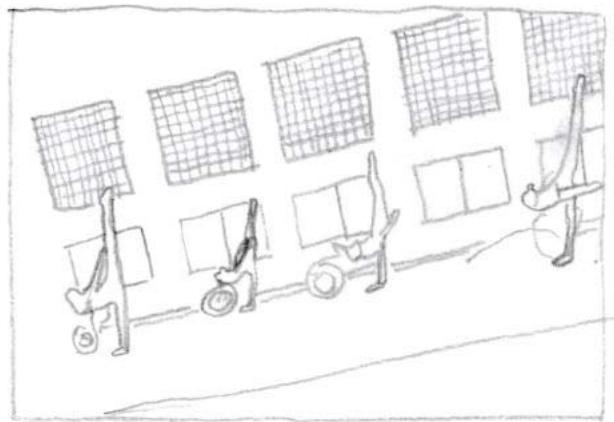
As I entered the gymnasium, the coach, Jimin was sitting on a chair while five rhythmic gymnasts were practicing on the mats. Jimin asked the gymnasts to stop practicing for a moment because she wanted to introduce me. The coach explained that I was a student studying kinesiology in the United States, and that I had come to watch them practice. She instructed the gymnasts to behave as they normally do, and to pay no attention to my presence as they worked. The coach then introduced me to one of the gymnasts in particular named Jisun, and said that this gymnast would discuss the team's schedule with me after the team was done with their exercise. The coach reiterated that I would be welcome to come and observe their practices at any time. After introducing me to Jisun, the coach left the gym and did not return for the remainder of my observation. Jisun gave me her cell phone number, and then joined the practice with the other gymnasts.

I found a place where I could clearly and discreetly observe the gymnasts practice. The athletes' bags and belongings were located in a corner of the gym next to a bench, and I sat on that bench to observe. I pulled out my notebook and a pen and began taking notes of the athletes' training.

Five athletes were practicing a ribbon routine (see Figure 5). As the gymnasts called out, "One, two, three, four," they practiced what appeared to be choreographed commands where a synchronized movement was very important. While holding a ribbon in their right hand, the athletes performed a standing split where they stood on one leg, while they lifted their other leg into the air at an angle of at least 180-degrees. Then, while maintaining their standing split, they spun their ribbons in a clockwise motion, and made a full 360-degree rotation on their standing leg.

Figure 5

Rhythmic Gymnasts Practicing a Standing Split Ribbon Routine



They then called out “One, two, three, four, five, six, seven, eight,” and practiced the same routine in repetition. This time, Jisun was not participating, but rather was watching the other four, and shouted out, “No, no! Feet, feet, feet!” All gymnasts temporarily stopped practicing and exchanged opinions about their performance with Jisun. After sharing their thoughts, they started practicing again.

The athletes then counted together, “One, two, three, four, five, six, seven, eight.” Jisun instructed, “Your right shoulder is too far away.” Another athlete, Junga replied, “No, No, No.” And yet another gymnast named Sunyun said, “She did not lift her left hand!” One of the five gymnasts, Jisun, who was observing during the last drill appears to be a group leader. She stopped the practice and then demonstrated the correct action to all of the gymnasts. Following this, Junga, Miran and Sunghye practiced the action again, while Jisun and Sunyun watched.

The gymnasts gathered to discuss the skill level and appearance of each other’s performance. After debating, all five gymnasts relaxed and put their ribbons down and took a short five-minute break. Some gymnasts drank water, some went out of the gym, and others simply talked to each other about non-gymnastics related topics.

After the five-minute break, all five gymnasts returned to the mat in the gym. This time, Junga and Sunyun were practicing with ribbons, while the others were not. Jisun, the leader of the five gymnasts again observed, as all the others tried to perform their routine. Junga and Sunyun attempted to throw their ribbons while Miran and Sunghye attempted to catch them. The gymnasts failed to complete this operation three consecutive times. They continued to attempt to complete the action, but repeatedly made

mistakes and could not catch the thrown ribbon. Instead, they would pick up the dropped ribbon and continue with the following action of the routine. The group leader, Jisun, continued to explain that this was unacceptable, and that if they were unable to both throw and catch the ribbon, that the exercise would have to stop.

After several attempts at this action, Jisun repeated, “One, two, three, four, five, six, seven, eight,” and finally the four other gymnasts were successful. The leader, Jisun, congratulated and instructed the team:

Today, for the first time, four people have succeeded in both sending and receiving the ribbon! But, you were not consistent in your results. We all need to keep practicing the same behavior until we master it and can figure out what we are doing wrong.

All five gymnasts then discussed with each other to try to determine what was wrong. The gymnasts continued to practice throwing and catching the ribbons, but they continued to fail.

At this point, I noticed that another class had begun taekwondo practice on the other side of the gym, while the rhythmic gymnasts continued to practice ribbon throwing on their side of the gym. Sunghye stopped to take a drink of water, and then Miran also drank some water. Even though there was no coach present, the five athletes stayed and continued to practice. Four of them would take turns practicing the ribbon throw and catch maneuver while Jisun observed and instructed, despite numerous failures. Some gymnasts could not catch the ribbon, while others would twist the ribbon and cause a poor throw. The leader Jisun again gave the counting command, and pointed to the

position of the gymnasts. She instructed, “Although we make mistakes every time we throw, we should still talk about what to do each time we make a mistake.” After this, Sunyun left to use the restroom, and the other gymnasts took a short break. While resting, the gymnasts laughed and talked. After the short break, they continued with a slightly different practice.

This time, Junga held two ribbons. She practiced throwing the ribbons, one at a time, while Jisun explained how to do it. Then, another gymnast would throw two ribbons back at the same time. Two gymnasts would catch the thrown ribbons, and then roll forward on the mat and throw the ribbon again. Junga, Sunyun, Miran and Sunghye repeatedly took turns at this throwing/catching/rolling activity while Jisun continued to observe and instruct.

“Let's do it again,” instructed Jisun, “Let's do five more exercises. You keep doing this (displayed an incorrect hand movement). No, no, no. You did not do it correctly.” The leader continued to point out incorrect movements.

After watching this, I left the gym while they were still practicing. The gymnasts did not see me leave, because I exited the gym quietly during their practice, so that I did not interfere with their efforts.

Observation 1 Reflection: Typical Practice, Appearance and Flexibility. A majority of the observation was spent practicing various ribbon maneuvers, and flexibility and stretching were integrated before and during the practice session as well. The athletes took turns throwing and catching ribbons, and persisted despite being unable to complete the throw and catch maneuvers successfully. This practice session served as

not only an ideal case study of a typical rhythmic gymnastics session, but it also provides evidence as to the importance of appearance, flexibility, strength, and teamwork in the sport. The primary research question in this study investigates the aspects necessary for a good performance, of which appearance and flexibility are primary factors. The importance of both of these factors were evidenced throughout the practice session.

In this observation, the use of ribbons and the need to synchronize movements was evidence of the appearance aspects of the sport. Traditionally, appearance is thought of in terms of physical beauty and body ideals. However, the essential importance of appearance in the routine must not be ignored. Appearance is an important factor for a good performance in rhythmic gymnastics not only in terms of physical appearance, but in terms of the beauty of the routine, choreography, and use of apparatus as well.

Rhythmic gymnasts usually perform simultaneously with music and various apparatus to make their performances appear more ‘beautiful’. In this observation, the athletes practiced their movements without apparatus at first while they counted their motions without music, then they added the ribbons. It was very important for them to be able to synchronize their body movements to each other and the counted beats before adding music into the routine practice, emphasizing the beauty of synchronized body movement. Once the beauty of synchronized body movements was mastered, then the athletes added the use of ribbons.

The use of apparatus such as hula hoops, clubs, ribbons, and balls differentiates rhythmic gymnastics from traditional gymnastics. The use of these tools adds to the complexity of the routines, and use of apparatus is believed by athletes to add to the

beauty of their performances. Therefore, mastering the use of such tools is an important aspect of appearance in the sport. If athletes are not able to synchronize their movements and usage of apparatus, the appearance aspect of their performance will decline.

In terms of flexibility, another essential component for a good performance, the activities and movements displayed by these rhythmic gymnasts in this observation showed that they had far more flexibility than the average person, and that they had been working on such flexibility for a long time. They did several different stretches with maintaining their foot-hip-foot split line at a perfect 180-degrees. The extreme nature of the stretching, and the dedication and patience of the athletes was impressive. Rhythmic gymnasts also performed a movement requiring great balance and skill where while holding a 180-degree standing split position, supporting their foot with their hand, they then proceeded to rotate on the standing foot in a full 360-degree circle. Flexibility was clearly important during all subsequent observations as well. It should be noted that flexibility itself is also not independent of appearance or use of apparatus, because if one is not flexible enough, they will not be able to synchronize their movements or throw or catch their tools at the same height and speed as their team mates.

Teamwork and the importance of a team leader (such as Jisun) was evidenced in Observation 1 as well. Jisun, in particular, spoke up and instructed more than Junga, Sunyun, Miran or Sunghye. I later found out that Jisun was the team leader of the group. Even though the coach, Jimin, was not present, the team still had a leader to instruct and guide the team. Although the team leader did the majority of the speaking, the other four gymnasts still freely shared their opinions, and they would all discuss mistakes and

suggestions for improvement next time. The relationship between the athletes was respectful and kind.

Appearance, flexibility, use of apparatus, routine practice and teamwork are all integral components to a typical practice session. Observation 1 in particular, while exemplifying a typical practice session, also allowed for observation of two key elements for successful performance in rhythmic gymnastics: appearance and flexibility.

Apearance as Significant for Performance in Rhythmic Gymnastics

While there are many factors that contribute to good performance in rhythmic gymnastics, appearance and flexibility are the two essential qualities identified by gymnasts in interviews and through field observations as necessary for success in the sport. Gymnasts demonstrated that if appearance is lacking, performance scores will decrease, and if flexibility is lacking, athletes will not be able to perform their routines and may sustain injuries as well. In this study, appearance refers primarily to physical appearance in terms of body size and shape. Secondary, however, is also a necessary understanding of appearance in terms of aesthetics of uniform. An ideal body size is important for success in the sport, but also important is the ability to appear beautiful in costume and while practicing of the movements themselves. Flexibility, while significant enough to be considered its own independent factor for good performance, is also not explicitly separate from appearance. An athlete must be exceedingly flexible in order to perform well. Likewise, if a gymnast is able to maintain the ideal body size, it is easier for them to reach the level of flexibility that the sport demands for success. In this section, the significant factors of appearance (ideal body size and aesthetics) and flexibility

(scoring, strength and aesthetics of flexibility) will be discussed in light of their importance to a good performance in rhythmic gymnastics.

Appearance plays a critical role in rhythmic gymnastics and is essential in order to achieve high scores during performances. Appearance can be defined in terms of body size, where having a slim body and a low weight is paramount. Appearance can also be defined aesthetically in the sport, where an ideal physical appearance is important because of the uniforms athletes have to wear.

While ideal body shape and aesthetics were both important identifiers, it is important to note that interviewees consistently referred to weight as the primary appearance factor in this sport, and noted that performances become increasingly difficult and more dangerous as you gain weight. The need for low weight and low body-fat was considered important because of the tightness of the uniforms athletes must wear. Furthermore, the thinness-ideal in this sport links good performance to beauty and higher scores. Some interviewees focused on a thin appearance as necessary for injury prevention and better performance, while others focused on the need for thinness because of the form fitting, short, revealing uniforms they must wear. Rhythmic gymnasts believe that they need careful weight management in order to maintain beautiful body lines which will be lost if they gain even a minor amount weight. Junga (Interview 1) expressed this sentiment in her interview by saying, “It is quite normal for rhythmic gymnasts to practice basic weight management.”

Ideal Body Size. The ideal body in rhythmic gymnastics is one that is slim, tall, low in weight, and with disproportionately long arms and legs. The emphasis on a slim

body by the interviewees was significant and pervasive. Miran emphasized the importance of limb length and a smooth slim body:

Asians cannot help having short legs, so you should not be fired for this. But, because our legs are usually too short, we cannot be overweight. I think Westerners have longer legs which is very good for rhythmic gymnastics. In rhythmic gymnastics, I also think it's a bad thing to have muscles like weight lifters or athletes (Miran, Interview 3).

Several interviewees expressed the belief that Asians (including Koreans) generally have shorter arms and legs than Westerners, which means that there is more pressure for Asians to maintain a low-weight and slim body. They believed that taller, thinner people with long arms and legs had the ideal bodies for rhythmic gymnastics. Interviewees expressed that the shorter an athlete is, the more important it was for them to be thin.

Significantly, all of the interviewed rhythmic gymnasts expressed a consistent height-weight ratio as being ideal in the sport. The ideal body for a Korean rhythmic gymnast was thought to be one that is 168cm (5' 6") tall, with a weight of 48kg (106 lbs). This is both taller and a lower weight than the average height and weight of Korean women which is 162cm (5'4") and 54.4 kg (120 lbs). During the fifth interview, when asked about the ideal body size, Sunhee expressed, "I think Korean rhythmic gymnasts are ideally 168cm (5' 6") and 48kg (106 lbs)" (Sunhee, Interview 5). Because this standard came up repeatedly in the interviews, it is a variable in the determination of ideal body. The closer a gymnast is to this standard, the more beautiful they are

considered, the more attention they will receive, and the higher their scores are likely to be.

Weight. The ideal body size appearance category can be further broken down to include specific subcategories in weight and thinness. Weight is a significant body ideal necessary for a good performance in rhythmic gymnastics. Multiple interviewees demonstrated that good performance and lightness were directly linked. Interviewees said that weight is the primary appearance factor in rhythmic gymnastics and noted that performances become increasingly difficult and more dangerous as athletes gain weight. Eunjoo reinforced this belief in her interview:

100g might not seem like a lot, but you can definitely tell that you are getting bigger. 100g, is nothing really, but if I eat a lot, I will gain weight and the whole day I will feel different and too heavy. On the days I eat less, I definitely feel lighter. If I eat too much I cannot perform well because I'm tired and because I'm fat. The coach also feels the same way as me. (Eunjoo, Interview 6)

Good performance and lightness were directly linked by the interviewees. When asked about the importance of appearance in rhythmic gymnastics, they said that maintaining a light weight allowed you to perform better. Even a minor weight gain of 100 grams was considered noticeable enough to cause poor performance. Eunjoo even indicated that the coach maintained a similar viewpoint, which indicates that the gymnasts may feel this way on their own, but may also hold these beliefs because of the influence of the coach. Gymnasts indicated that even with minor weight gain, they felt fat and had poorer performance because their bodies did not move as well, and did not appear as beautiful.

Body thinness. Thinness, or having a slim body, was a significant body ideal in appearance. While body thinness and weight are very similar, interviewees did distinguish between the two. The appearance of thinness was important, regardless of weight, even though lower weight generally allows one to appear thin. Still, interviewees employed various methods to appear thin, without regard to physical weight. Thinness is important in the performance aspect of the sport because rhythmic gymnastics emphasizes aesthetic beauty, and among the interviewees, beauty and thinness were virtually synonymous. In this sport, the expressions of the body are scored from head to toe. A body must be thin and low in weight in order to develop the ideal body line to achieve high scores. So in rhythmic gymnastics, the slimness of the body, especially the visual visible line, is important.

When the interviewees were asked whether or not appearance was important in rhythmic gymnastics, all stated that it was very important. Furthermore, all interviewees specifically linked appearance to weight in their responses. Being thin was overwhelmingly equated with good appearance. Miran emphasized this point about the appearance of thinness, and the connection between weight, aesthetic beauty and a good performance in her interview. Even a small increase in weight, which was likely imperceptible to others made her feel bad, and she felt that her body appeared bad simply because it was heavier:

A small increase in weight may not seem like a big deal to most, but I can see any extra weight when I'm practicing for a game. My body looks bad when it is heavy, and if my body has lost weight, it can look light. If an athlete performs the same routine when overweight and then when lighter, their lighter-weight performance

will always be more beautiful. When I'm fat, I do not even look pretty. (Miran, Interview 3)

Aesthetics. Ideal body size is not the only important factor in appearance, but aesthetics, or beauty in terms of physical appearance, is also important factors for a good performance in rhythmic gymnastics. Furthermore, aesthetic beauty is especially important in rhythmic gymnastics because of the uniquely tight and revealing uniforms the athletes wear.

Physical beauty. The second interviewee, Sunyun, thoroughly discussed the relationship between weight, physical beauty, use of apparatus and good performance utilizing the example of Miss Korea:

In rhythmic gymnastics, I emphasize “beautiful beauty” is emphasized. Miss Korea for example, is both a beautiful and slender person, and the ballerina has both exterior beauty and a beautiful body line. Rhythmic gymnasts are thin, and the body line is pretty as well, so it makes me want to watch the gymnast more closely. The beauty that ordinary people think about and the beauty that rhythmic gymnasts think about are totally different. The public may think that spinning a ribbon is beautiful, but the beauty of the visual lines is especially important to rhythmic gymnasts. If one gymnast is overweight but their performance is good, and another gymnast is thin like a mannequin body, the rhythm gymnast coach gives a lot more attention to the thin gymnast. Although the ability is important, appearance is equally or more important. With a similar ability, the overweight child might earn 13 points, but the thin child would earn 15 points. (Sunyun, Interview 2)

In rhythmic gymnastics, the body should be thin, but the interviewee’s Miss Korea example shows that being both slim and physically beautiful are important. Several interviewees expressed the opinion that thinness was equated to beauty, and that the thinner an athlete is, the more beautiful they are. The importance of “the gaze” in

rhythmic gymnastics was paramount. The gaze of the audience, the coaches and in performance, attracting the gaze of the judges is critical. Sunyun indicated that typically, the gaze of viewers goes towards the thin person, and even if two people share the same ability in rhythmic gymnastics, the thinner person is more likely to get a higher score.

Uniform aesthetics. Within the larger category of appearance, ideal body size and aesthetics are significant factors for a good performance. Aesthetics can be further understood to include physical beauty in appearance and performance, as well as the ability for an athlete to maintain a visually pleasing appearance in their uniform.

According to the 2017 Code of Points by the International Federation of Gymnastics, leotards are requirements in rhythmic gymnastics. The leotard must be tight-fitting in order to enable the judges to evaluate the correct position of every part of the body. The dimensional cut of the leotard is also defined, and at the top of the legs, must not go beyond the fold of the crotch (maximum). Additionally, undergarments worn beneath the leotard should not be visible beyond the seams of the leotard itself. Multiple interviewees indicated that when a rhythmic gymnast weighs too much, their body looks heavy in their tight uniforms, and this was not considered beautiful.

There are a lot of rhythmic gymnasts who emphasize the importance of having a beautiful body. I care about what people see. Our uniforms are tight, our skirts barely cover our panties, and our thighs are visible. In addition, there are several revealing positions that we must perform in order to score well. If I gain weight, the uniform shows everything because it does not hold back the fat or flesh — and it just looks bad. (Junga, Interview 1)

Eunjoo expressed the importance of aesthetic beauty to include physical attractiveness, which could be improved with makeup and plastic surgery. She also discussed the importance of slimness for uniform aesthetics:

There are a lot of gymnasts who wear excessive glitter, make-up, and even have facial cosmetic surgery. When I think about why rhythmic gymnasts emphasize their outward appearance so much, I think it is because of the clothes we have to wear. We wear very tight clothing during our competitions and our skirts are short too. I think appearances matter so much because of the types of clothes we have to wear. My clothes are so tight and short, and when I perform routines and flips, I can see my own thighs. When someone who is a little heavier wears these uniforms, it is really not nice. It is my job to show beauty, so I must pay attention to my clothes and weight very carefully. The clothes we wear are very nice, but if the gymnasts are not pretty, or not skinny enough, the needed harmony is not there. So I think rhythmic gymnasts need to be careful about their weight and should keep slim. (Eunjoo, Interview 6)

Both spectators and judges see the athletes' tightly uniformed body. If the body is thin (and thusly considered "beautiful"), it draws positive attention because the uniform conforms to the body perfectly. The rhythmic gymnasts felt that a thin appearance was so important because the thinner you are, the more beautiful you appear in your uniform, and the higher scores you can achieve regardless of difficulty level. It should be noted that while Eunjoo mentioned makeup and even cosmetic surgery, the overall emphasis from the majority of interviewees still remained on weight and the clothing when discussing the importance of appearance in rhythmic gymnastics.

The emphasis on appearance is pervasive in rhythmic gymnastics. Athletes must be beautiful. In order to be considered beautiful, they must be thin and have the correct body dimensions and height-weight ratios. They must not only *look* beautiful, but they

must perform beautifully as well, utilizing their equipment well, while creating clear body lines. They must also look beautiful in their uniforms as individuals and as a group. Uniform aesthetics, in a way, intertwine all variables of appearance because if an athlete has the ideal body, they will look good in their uniform, and if a team looks good in their uniforms, their routines will appear more beautiful and their performance will be scored higher.

Strategies for Maintaining Appearance. All interviewees stated that the appearance was important in rhythmic gymnastics. The thinness-ideal links good performance to beauty and higher scores in rhythmic gymnastics. Furthermore, all interviewees specifically linked appearance to weight in their responses. It is important to consider not only the specific categories of ideal body size and aesthetics, but also to consider the strategies athletes employ to maintain their appearance. Rhythmic gymnasts make great efforts to maintain their appearance, and it gives great insight into the importance of appearance for a good performance.

Because weight and slimness was overwhelmingly correlated with the ideal body and aesthetic beauty, the emphasis of most athletes' appearance strategies revolved around lowering their weight. Nearly all rhythmic gymnasts practice some form of weight management in order to improve their appearance and perform better. Some of the methods used to control weight include dieting, food deprivation, fasting, limiting carbohydrate intake, and replacing meals with water. Some forms of weight management are more extreme than others. When excessive weight management was practiced, it was mostly at the demand of gymnasts' coaches. Miran (interview3) described some pressure

she received from her coach during her interview when she said, “I do not want to hear the coach nagging me about my weight. After workouts, I would go to the scales with all the other team gymnasts.”

Overall, there was a direct correlation between coach pressure and athlete’s appearance concerns. There were, however, a few athletes who did not experience stress about their weight, and some coaches who allowed weight control to be managed by the athlete’s themselves. Ohjung (Interview 8) indicated how she did not feel much pressure about her weight by saying, “I did not try any form of weight management to control my appearance until high school.” While this appears as a negative case, it likely represents an insignificant outlier in this category. This athlete did not feel pressure because she already had a high metabolism. The coach applied the same expectations to her as other athletes, but she did not have to worry about managing her weight because she naturally met the weight and appearance requirements expected by her coach.

Dieting. In Interview 1, Junga discussed her years as a high school athlete, and her dieting methods where she usually ate just one meal a day, a school lunch. She would go to rhythmic gymnastics training every evening, but then go to sleep as soon as possible afterwards in order to reduce hunger:

I did not eat. In high school, my pattern was always to go to school in the morning on an empty stomach, eat lunch in school, and then after 9 pm, drink a glass of water or have a yogurt. I would eat and then sleep right away so that I would not feel my hunger as much. I was hungry, during the day, but that wasn’t a problem. Weight control is different for each individual. There are people who can easily lose weight, while there are others who exercise a lot but only lose 200-300grams. If you exercise a lot though, you know how to do it well. You know how many hours you need to run and how many meals you should miss. If you gain weight,

you simply can't have lunch. I do not think I'll faint. I think it all about your mental state at the time. At first I hated it, and wanted to quit, but recently I've realized I can do it and I'm ok with that. If one day I decided to not train or quit managing my weight and just go home, my parents would not welcome me. In my area, it is quite normal for rhythmic gymnasts to practice basic weight management. (Junga, Interview 1)

Although it was very difficult at first and she wanted to quit, Junga eventually realized that this was something she had to do because it was the norm and expected of all who want to participate in rhythmic gymnastics. Dieting is an extremely typical method of appearance control in rhythmic gymnastics, but the degree and severity of dieting differs depending on the individual athlete's weight loss needs.

Restriction of carbohydrates. Sunyun provides a representative example of a specific type of dieting utilized by rhythmic gymnasts to control their weight and thus improve their appearance:

One time, I only ate water for a whole week. My plan was to not eat carbohydrates in order to lose weight. Without thinking, though, I ended up only drinking water for a week and not eating any food. I lost 5 kg during that experience, but my physical condition also became very bad as a result. So, after that I tried to eat a little bit, but because of the yo-yo phenomenon, I put 3 kg back on very quickly. So then I started going to the gym before team training, went to the sauna and sweated. Some days I had only an hour to exercise and eat, so then, I would start training with the team after eating half an apple and 1.5L of water. After the training, I would only eat one small salad. If on the next day, I did not have strength training at the gym, then I would go to the sauna only and eat a very small amount of food. When I was managing my weight and restricting carbohydrates, I could not eat, so my emotions became very sensitive. I would cry all day while I exercised. (Sunyun, Interview 2)

Sunyun practiced carbohydrate restriction in order to manage her weight and maintain her appearance. She did not simply restrict carbohydrates, however, she

eliminated them, and reduced all other food to a very small amount and drank water instead in an attempt to feel full. She would spend her extra time exercising more, weight training, practicing with her team and going to the sauna to lose more weight. During this time, she admitted that her health was not good and her emotional state began to destabilize as well from the lack of nutrients. This extreme dieting activity led to crying spells while working out in the gym and practicing. Many of the interviewees restricted certain types of food or entire meals, and it was common for her to only eat one meal a day or less. Often, rhythmic gymnasts, as part of their weight management and appearance strategy will consume only small amounts of fruits and vegetables while drinking excessive amounts of water in an attempt to feel full.

Fasting and fainting. Some rhythmic gymnasts participate in the sport in order to increase their chances of getting into a good college. Admission to a good college is so essential that they will go to extreme measures in order to increase their odds. One such method is termed ‘fasting and fainting’, where an athlete will fast food until they physically cannot do so any longer because they faint. This is all done in an effort to improve appearance so that they maintain a good performance in the sport and thus increase their odds of admission to an elite university. Sunyun described her extreme fasting and fainting methods and reasons for practicing such an extreme strategy:

I once starved myself until I collapsed. I thought that it would be really pathetic of me if I didn't work hard in gymnastics in order to get into a good college. I was good in elementary school, but in high school I got worse because of injuries, so I had to get rehabilitation. I figured that the reason I got worse at gymnastics was because I had gained weight. So I started weight management and I even got better at rhythmic gymnastics, but people still called me fat. I heard that a lot. So I

starved myself to the point that I collapsed in order to try to lose more weight.
(Sunyun, Interview 2)

Injuries that Sunyun experienced in her second year of high school caused her rhythmic gymnastics performance and skill to go down, but she attributed it to weight gain instead. Even as her performance improved, coaches and her peers still called her fat, and made fun of her weight. This led her to starve herself in an attempt to lose weight and improve her appearance. She withheld food for many days until she eventually fainted on the street. Extreme fasting, when used as a method of weight control in youth, is dangerous, because often times they are unable to determine when they have gone too far. As a strategy to improve appearance and lose weight, they will simply fast until they faint, at which point they may believe they have succeeded at the task, or are simply unable to continue the behavior for a time.

Low stress approach. Although a clear minority, some gymnasts adopted a very low-stress approach to weight management and appearance. In this research, this perspective represents a negative and outlier case. These athletes were either not pressured by their peers or coaches, or were given very minimal suggestions. Furthermore, they often had already high metabolisms and despite receiving the same expectations from coaches, they did not experience stress because it was very easy for them to meet weight and appearance demands. Ohjung and Miseong were two atypical interviewees who did not focus much on their weight and chose a low-stress approach instead:

I was a little unusual. I did not try any form of weight management to control my appearance until high school. In high school the coach came up with a low-pressure strategy where I would exercise while I was eating. The other gymnasts at the time were heavy, so I just reduced my eating a little bit, and I exercised while I ate. I did not have a lot of stress because of my weight. (Ohjung, Interview 8)

Some interviewees, like Miseong, were even instructed to self-manage their appearance and weight. Miseong indicated that she “...only did weight control once a week, not every day. Some people do a lot of training, but my coach said, ‘You should control the weight by yourself.’” (Miseong, Interview 10). While some weight management appearance strategies are extreme, this low-stress approach was useful for a small number of gymnasts. There are some gymnasts, for example with high metabolisms who do not gain weight easily, and are able to eat more. Finally, there are some coaches, whose philosophy is simply not to pressure their gymnasts and allow them to self-manage their weight as they see fit.

Strategies Peers Utilize to Maintain Appearance. During interviews, athletes were asked to identify other strategies used in rhythmic gymnastics to maintain appearance, even if they did not personally use these strategies themselves. They were asked to describe the techniques other team members, friends or peers have used. It was noted that many rhythmic gymnasts starve themselves or adjust their diet for weight control. Some, however, would also use vomiting or laxatives to remove what they had already eaten from their bodies quicker. Still others would use drugs, or injections to either reduce weight or reduce the appearance of weight.

Vomiting. Most of the rhythmic gymnasts interviewed had either tried forced vomiting by themselves, or with the help of their peers. When a gymnast becomes so hungry during weight management that they have to eat, they often feel that the only way to avoid gaining weight is to eat and then vomit afterwards.

I saw what other gymnasts do, and so I forced my fingers into my mouth. I've done that 1-2 times. I was so hungry that I wanted to eat what I had just thrown up. I did not want to go to the gym to work out because of my weight, so I decided to try vomiting, and it worked. I know that I have to take responsibility for what I eat, and that I cannot spit out everything. Still, my weight went down by 100-200g, which was good. (Junga, Interview 1)

Junga and Sunhee both described the practice of vomiting they saw other athletes participating in:

There were always lot of things happening around me because of weight concerns. I did not take medicine, but one day I saw my fellow athlete put her finger into her mouth and throw up what she ate in the bathroom. So I tried it one of the days that I ate a lot, but I was not successful. I don't know why but it just couldn't do it. I felt like I had to do anything in order to lose 100g or 200g, I had to do whatever I could because weight is very important in rhythmic gymnastics. I was very nervous. (Sunhee, Interview 5)

Some gymnasts recognize that this is unhealthy, but may feel that they have no choice and do not know what else to do. When practiced too frequently, these behaviors can cause health issues and bulimia, but none of the interviewees discussed the negative effects of this behavior. Instead, they focused on the prevention of weight gain, the ability to still eat, and the way to at least temporarily avoid a coach's scolding.

Use of laxatives. Many gymnasts have seen their peers take laxatives or other weight loss medication from a pharmacy. There is a lot of pressure in rhythmic gymnastics teams to maintain a uniform appearance between team members. It is important that each athlete has a similar weight, and many will take laxatives in order to achieve this. Laxatives were seen by some as an easier and faster method than other approaches like vomiting or food restriction. In Interview 10, Miseong said that “When I prepare for a team game, I have to lose weight within a few days, so I also tried laxatives. That's the way I always do it (Miseong, Interview 10). Some gymnasts would use laxatives only occasionally, while others will use them as part of their regular weight loss management routine. When interviewed, Jisun, the group leader, gave a detailed account of how an athlete can use laxatives in order to help control their weight:

If you rest on Sunday and start training again on Monday, you will have to vomit on Monday. In severe cases when you need to lose weight fast, you can take medicine. You can take a laxative. If the recommended amount to eat with it is 2 eggs, then you might need to eat 5-6 eggs. Because, when you take it too often, it becomes resistant. I would also go to the sauna to sweat off my weight. My friend did something like this very weekend. Why? Well, because I would have to play something like 100 rhythmic gymnastics programs if my weight increased. We have to lose weight. I did not want to do it, but I think I took some medicine once because I really did not want to do the program 100 times. (Jisun, Interview 7)

Many Gymnasts participated in weight loss activities in an attempt to maintain appearance standards and improve performance. Vomiting and laxative use were both used, though Jisun indicated that laxatives were a particularly good method to lose weight quickly. Jisun indicated that if a gymnast’s weight increased, her coach would penalize the athlete by making the athlete excessively repeat their training exercises. A coach’s

influence on the weight management of gymnasts is a significant strategy utilized to modify gymnast's bodies in an attempt to improve both appearance and performance.

Fat-splitting injections. Many interviewees said that they have either personally used, or have known other athletes who have received liposome injections. These injections are distributed in the hospital and the injected solution temporarily breaks apart fat cells (usually in the thighs) to give the legs a thinner, smoother, firmer appearance. These injections were portrayed by athletes as a fairly normal procedure, although the effects were described as providing only a temporary solution. In order to maintain the effect, the athlete needs to keep going to the hospital and increasing their dosage as it wears off and the body adapts to the formulation. Sunyun described her desire to get injections, but the ultimate decision not to go through with it:

If gymnasts do not have a sedative during fat-splitting injections, they're lying. A few years ago, diet pills were popular, but now it's injections. I've been to the hospital to see about getting this done, because I wanted to help reduce my weight in a less difficult way, but I eventually decided I did not want to take the injection. Some of my friends, however, have done it and they have lost weight that way. The most common part to get it done in is the thigh. I have a lot of thigh fat, and I've heard that if I exercise frequently, these fat splitting injections could be quite effective. (Sunyun, Interview 2)

Sunhee, on the other hand, repeatedly received the injections and made this a regular part of her weight-loss routine.

I've taken a shot. I took the shot to get thinner thighs. I had to first take an appetite suppressant. Then, I went to the hospital about twice a week, for about 10 weeks to get the injections. There was a temporary effect. If my fat came back, I'd go back for another shot. My weight did not change, but my body and legs felt

thinner. As the medicine dissolves into the body, the fat gets broken down. (Sunhee, Interview 5)

Neither athlete described any negative effects of the fat-splitting injections, other than that their effect was not long lasting. The normalization of fat-splitting injections, even though the effects are temporary and do not cause weight loss, indicates that weight loss itself may not be the primary concern for injections. Rather, the primary strategy for injections may be to give the appearance of weight loss and the look of smoother thighs. Either way, the strategy to utilize fat-splitting injections was believed by athletes to improve their appearance, and was seen as a useful practice to give the appearance of weight-loss and make their bodies look thinner, thus improving their overall performance.

Food abstention (fasting). Most of the athletes interviewed had seen fellow gymnasts practice excessive weight management as a strategy to improve their appearance and performance. Food abstention and in extreme cases, starvation, were often used in an attempt to lose weight when mere dieting, carbohydrate restriction or other methods were not effective. Miran described a feeling of shock upon discovering a fellow athlete's weight loss goals:

I recently saw a fellow athlete's locker accidentally, and saw that their target weight was 38 kg(84 lbs).The gymnast was similar in height to me (5' 6") and I thought 38 kg (84 lbs) was too extreme. (Miran, Interview 3)

Within rhythmic gymnastics where weight loss strategies are common, there are extreme cases which cause concern even among athletes, such as the example described

by Miseong. Ohjung also described the practice of fasting in an effort to lose weight and improve appearance:

When I was a middle school student, the senior gymnasts did not eat rice at all. Even I ate only one meal a day, and when I ate rice, I put on a lot of weight. The coach said that if I did not lose weight that I should not even come to the gym or perform. (Ohjung, Interview 8)

It is common among rhythmic gymnasts to abstain from food and substitute water while trying to lose weight, or to only eat one small meal per day while training regularly. It is also common to employ a variety of strategies in an attempt to lose this weight.

The Significance of Appearance in Rhythmic Gymnastics. Appearance is a fundamental aspect necessary for good performance in rhythmic gymnastics. Several aspects of appearance are considered important including having an ideal body size with the appropriate height weight ratio, maintaining a slim body and a low weight. Aesthetic of physical beauty and uniform aesthetics are also essential components for a good performance. The most important characteristic overall, however, was maintaining a low body weight, which was equated with beauty and success. Furthermore, the thinness-ideal in rhythmic gymnastics links good performance to beauty and higher scores. Some interviewees focused on a thin appearance as necessary for injury prevention and better performance, while others focused on the need for thinness because of the form fitting, short, revealing uniforms they must wear. Rhythmic gymnasts believe that they need careful weight management in order to maintain beautiful body lines which they believe will be lost if they gain even a minor amount weight.

There are many strategies utilized by gymnasts and coaches in an attempt to modify the appearance or weight of the body for better performance. Some strategies are gymnast driven and dangerous to one's health, while others are driven by coach weigh-ins or fear of excessive punishment for weight gain. Individual gymnasts attempt various forms of dieting, carbohydrate restriction, food deprivation, and even fasting until fainting techniques in order to maintain a desirable appearance. Some gymnasts are motivated to pursue these strategies because of upcoming matches they must win, or in order to improve their odds of acceptance into top universities. Although there were some athletes who did not worry about their weight, and took a low-stress approach towards their appearance, these individuals were in the minority.

Even though the interviewees may not have personally experienced a specific appearance strategy, they were asked to describe the experiences of their peers. Bulimic and anorexic behaviors were quite common, and some of the interviewees had tried either vomiting or starvation at least once. Other techniques including taking prescribed weight-loss medication and laxatives are used by many, along with other less frequently used methods. Taking medication was often seen as an easier method than starvation or extreme physical workouts. Fat-splitting injections given at the hospital were also used by some gymnasts, but it was noted that the effects of these were only temporary and did not lead to lasting weight-loss. Injections, however, do give the appearance of thinner and smoother thighs which is also important in an overall appearance strategy within the sport interviews indicated that athletes place a primary importance on maintaining weight and

depending on coach and peer influence, or weight loss needs, may take extreme measures, even detrimental to their health, in an attempt to maintain a slim, beautiful body.

Flexibility as Significant for Performance in Rhythmic Gymnastics

An underlying theme throughout all observations and interviews was the focus on flexibility as well as appearance. While each observation had a slightly different emphasis, every practice included at least some activities focused on the development of flexibility. Some observations had more extreme flexibility training than others, and extreme flexibility is imperative because rhythmic gymnasts need to be much more flexible than the average person in order to perform their routines. Flexibility is critical for a good performance because of the way performances are scored, and it is also important in order to build strength. The aesthetic belief that flexibility equals beauty among rhythmic gymnasts further supports its critical importance for a good performance in the sport.

There was not specific evidence in observations or interviews to indicate that an exact body size (height or weight) led to more excessive flexibility. However, it should be noted that most of the observed gymnasts were already thin, and they had all appeared to be adept at exercising (leading to slimmer bodies), as though they had been practicing their exercise movements for a long time. One example of extreme flexibility was evidenced in Observation 3, as the athletes performed an exercise requiring great strength, balance and flexibility:

The athletes then moved away from the bar. They again performed the standing 180-degree split (this time without the bar) and held onto their right foot with

their left hand. Then, they alternated and performed the same stretch with the opposite leg and hand. Following this, they made the stretch and balance activity more difficult. The athletes assumed the same standing split position, so that their legs maintained at least a 180-degree angle. Then, while standing on one leg and maintaining the split, they rotated upon the standing leg, making a 360-degree turn. They did this activity once for each leg. (Field Note Observation 3)

Scoring. Flexibility is a primary factor for a good performance in rhythmic gymnastics because of the way performances are scored. The final score of a rhythmic gymnastics performance is obtained by adding two scores together, one for difficulty (D), and another score for execution (E). It is clear then that flexibility, which allows for both a greater difficulty level, and a more beautiful execution, is essential for athletes. In Interview 1, Junga reinforces this point when asked to describe the most important factors for a good performance in rhythmic gymnastics:

I think flexibility is the most important thing for a good performance in rhythmic gymnastics, because without flexibility, I cannot do any difficult routine.

Generally, a high-difficulty score requires great flexibility. You have to be able to lean at more than 180 degrees with your back while lifting your legs. Body limitations consistently make it difficult to carry out a high-difficulty routine. It is difficult for a gymnast with little flexibility to stretch his legs at 180 degrees. So, if you are not flexible enough, you have to perform at a lower level of difficulty. If you sit down or can only perform a 90-degree difficulty, the difficulty level score will be lowered overall. (Junga, Interview 1)

Athletes are keenly aware of the importance of flexibility and practice it as a key component of every practice session. They will practice independently, with each other, or with various pieces of equipment in order to develop the greatest degree of flexibility possible.

Strength. Flexibility training is important for a good performance because it also leads to the development of various muscle groups, making athletes stronger and able to perform their routines with greater stamina and precision. The development of muscles itself is not the goal, in fact too many muscles are not aesthetically pleasing to the rhythmic gymnast, as explained by Miran:

When stretching, we try not to place force our arms, and our shoulder muscles should not be widened. This helps build core muscles in the abs and back. We do not intentionally try to build muscles. Thigh muscles should be produced too in order to perform, but if you see a lot of muscles in a gymnast, it is not considered pretty. Many movements give strength to the upper part of the abdomen, and rhythm gymnastics is basically an abdominal exercise because it builds strength in the back when doing balance movements. (Miran, Interview 3)

Most of the movements in rhythmic gymnastics are not meant to build large muscles, but are meant to exercise, stretch and relax muscles. That is, it is not ideal when muscles grow, because it is not considered attractive in rhythmic gymnastics. In addition, since many motions rely on the back and abs for power, it is extremely important to train these specific muscles in rhythmic gymnastics.

Flexibility exercises allow the athlete to strengthen the core muscles necessary for balance, strength and toe power (which was indicated by interviewees as important in performance). “Power of the toe” can be understood as an athlete’s ability to propel themselves into the air, balance and turn while holding difficult positions, similar to the way ballerinas must display incredible strength and flexibility in their toe work. The ability to point the toe appropriately also adds to the beauty aesthetic because it creates a

clean body line which is important in performance. Ohjung described the importance of these qualities during her interview:

I think the basics are the most important factors for a good performance. You have to learn the basics when you're young. For example, when you are balancing, you have to lift your legs, but not everyone can do that. Flexibility, strength, and power of the toe to create a high degree of difficulty can be performed when you are young. When you are a child, you need to build up a solid foundation so that you can easily perform these skills when you are an adult. The gymnast who cannot do the basics well cannot succeed. The basics seem to be the most important. New adult gymnasts are very hard to create. (Ohjung, Interview 8)

Flexibility, therefore is essential for a good performance because it helps to develop strength and the power of the toe, which were considered to the basics of rhythmic gymnastics by Ohjung. Flexibility, strength and power of the toe are best learned as a child, because it is very difficult to develop these skills as an adult. One must learn these basic techniques in childhood and apply them towards more high-difficulty skills as adults if they want to have a good performance in rhythmic gymnastics.

Aesthetic Beauty of Flexibility. Throughout the interviews, when athletes were asked about the important factors for a good performance, aside from the primary factor of appearance, flexibility was noted as being of essential importance. While listed as a separate category under the important factors for a good performance, flexibility is itself somewhat linked to the category of appearance as well. Appearance was previously described in terms of body ideals (specifically, of being thin and light), and in terms of aesthetics, where a beautiful physical appearance and appearing beautiful in one's uniform were noted as extremely important. Flexibility, however, relates to both body

ideals and aesthetics. If an athlete is thin and light weight, they are able to perform complex routines requiring great flexibility with more precision. Additionally, interviewees noted that the more flexible an athlete was, the more beautiful their performances appeared as well. A thin, extremely flexible gymnast is able to display clear body lines in their tightly conforming uniforms, which also leads to better gaze and higher scores from judges. Sunhee described the importance of flexibility in looking “pretty” during performances, and indicated how the aesthetic beauty of flexibility led to higher scores:

First, I think flexibility is the most important. If you are stiff, you will not be able to perform all the actions. I cannot start if I am not flexible enough. When this happens, the teacher is forced to help the gymnasts become more flexible by having them lean on the chairs, or participate in forced body stretching. I cannot help my inflexibility at times, but I must improve because other younger gymnasts are more flexible than me. The gymnasts who are able to stretch their legs into a 180-degree split are very pretty. Gymnasts who can only stretch their legs at less than 180 degrees are not as pretty and do not achieve high scores. I do a lot of things in order to stay as fit and flexible as I can. Once you reach a good level of flexibility, then you are able to do more. But if you do not have the needed level of flexibility to begin with, you cannot advance, which is why I think flexibility is so important. (Sunhee, Interview 5)

Interviewees consistently indicated that flexibility was one of the most important factors for good scores in rhythmic gymnastics. Moreover, gymnasts demonstrated that the rhythmic gymnasts who are able to stretch very flexibly, have greater aesthetic beauty and are able to achieve higher scores during performance.

The Significance of Flexibility. Next to appearance, flexibility was indicated as the most fundamental element in rhythmic gymnastics, as it is essential to perform most

exercises. Moreover, it was noted that actions that require a lot of flexibility always achieved higher scores. For example, during rhythmic gymnastics practice, there is an action where one should extend their leg at a 180-degree angle into the air. The better the gymnast is at doing such activities, the more beautiful their performances are considered. Coaches therefore, emphasize flexibility practice and sometimes even force gymnasts to practice flexibility before any other activities are performed.

According to the interviewees, in order to achieve a good performance in high-level rhythmic gymnastics, ‘flexibility’, and ‘appearance’ are both critically important. No matter how physically beautiful an athlete is, if the gymnasts are not flexible, they will not be able to achieve a high score. Likewise, while flexibility is important, the aesthetic appearance of the uniformed body line is not good, a gymnast will not get a high score in the expressive category. Both appearance and flexibility are important in order to perform well. Rhythmic gymnastics emphasize female beauty more than other sports, and so the ‘line’ of the body, and slenderness of the gymnasts is important. The ‘gaze’ of viewers, scorers and coaches will be more concentrated on athletes with thin physiques, rather than on gymnasts who are slightly overweight. The results of the observations and interviews indicate the significant, dual, and interrelated importance of both flexibility and appearance as imperative factors for success in rhythmic gymnastics.

Motivation in Rhythmic Gymnastics

The second primary research objective in this study was to determine the motivations for participation in rhythmic gymnastics. Likewise, the motivation for stopping participation in the sport was of concern. The first research question on the

important factors for a good performance indicated that appearance and flexibility were key components for success in the sport. In order to achieve the ideal appearance and flexibility standards, however, participants engaged in sometimes extreme weight loss management techniques. It was discovered that the majority of athletes in this sport are under an enormous amount of pressure to maintain a certain body ideal in order to appear aesthetically beautiful. This pressure comes from self, peers, coaches and family members. In light of such extreme pressures, it was pertinent to investigate what motivated these athletes to continue with the sport, and what motivated other athletes to quit.

Where the Observation 1 case study presented an example of a typical gymnastics session, and gave evidence for the importance of appearance and flexibility in the sport, Observation 5 provides insight on the motivation for participation in the sport. While during the practice sessions, gymnasts did not explicitly discuss motivation, the evidence of dedication, determination, and self-initiative despite failures displays clear motivation and the desire to succeed, leading better understanding to participants' motivations. The introduction to demonstrated motivation by athletes in Observation 5, makes it an ideal case study in understanding motivations for involvement in rhythmic gymnastics.

Case Study for Motivation in Rhythmic Gymnastics

The second primary research question being investigated in this study relates to the motivation for continued participation in rhythmic gymnastics. Details from Observation 5, completed on August 10, 2016, at 11:00 am in the S University gymnasium, where all six athletes were present, displayed a number of factors indicative

of motivation for continued participation in the sport. At this practice session, the coach, Jimin, was only present for about twenty minutes before leaving the gymnasts by themselves. When the session first started, the coach and gymnasts had a brief meeting, then the coach briefly watched the athletes exercise with various apparatus including hoola hoops, balls and clubs. She then instructed all six athletes to think about what they could do with the tools by themselves, and to practice using them independently. After the coach left, and the athletes began practicing with the apparatus by themselves, it was clear that they were not familiar with these tools, and did not know how to use them. They were practicing in a haphazard manner with no order or organization to their methods. Additionally, they would drop, miss and throw their equipment incorrectly to one another.

Despite being left alone with equipment they did not know how to use, with no instruction and no coach present, the gymnasts all remained at this practice. Their dedication to remain is clear evidence of motivation for participation in the sport. The reasons behind such motivation was further investigated in interviews, but enjoyment in the activity and positive outside influence from family members were key factors. Punishment may have also been an influencing factor, because when athletes displayed less than expected performance they were sometimes punished with additional exercises. Furthermore, their determination was evident in that despite lack of knowledge, and repeated failure, all six athletes continued to practice using the equipment and through trial and error worked with one another to brainstorm ideas on how to use the tools. Eventually, the gymnasts decided that they needed to do further research. After repeated

failures in trying to use the equipment on their own, they took the self-initiative to look up practice videos on their phones of professionals using the same equipment. They watched these videos together, analyzed them, shared ideas with one another, and discussed various ways they could implement techniques at their next practice. The exact reasons behind their motivation was not clear from the observation alone (individual interviews provided further insight into this), however, their actions during this observation were clearly indicative that motivation existed, and that a desire to succeed was present. Although the gymnasts were left alone to independently research, they eventually learned how to use the various apparatus they had chosen, and to practice using their tools in a skilled maneuver that they were capable of doing. The coach of S University allowed the gymnasts to create routines and train themselves to a large degree. This relative autonomous learning structure could be a motivating factor for this team's continued participation in the sport. The athletes were given independence to create their own routines with their apparatus, which could lead to greater ownership and pride in their accomplishments, as well as the ability to work well together as a team.

Field Notes for Observation 5: Using Tools and Self-Instruction.

Time: August 10, 2016, 11:00am

Place: Gym, S University, Seoul, South Korea

Participants: 6 athletes (Jisun – leader, Junga, Sunyun, Miran, Sunghye, Ohjung)

When I entered the gym, all six gymnasts on the team were present, having a conversation with the coach, Jimin. Jimin was sitting at the desk, and the six gymnasts

were standing around her, listening. I could not hear what they were discussing, but they met for about ten minutes before beginning practice.

Each of the six gymnasts then picked up an apparatus tool. Junga and Sunyun were holding balls, and the other four gymnasts (Jisun, Miran, Sunghye, and Ohjung) were all holding hoops. As Ohjung picked up the hoop she said, “I’ll do this one.” In observation, it seemed as though the tools they would use had not been decided yet, nor did they know what activity they would perform with that tool.

Junga and Sunyun practiced with the balls freely, doing their own activities. Junga fixed the ball behind her neck and spun around while Sunyun dribbled with her threw it towards Junga. “You should do something harder than that. I can do that too,” said Sunyun. “Ok, why don’t we try something easier, and then run with the ball?” replied Junga. The atmosphere at this point was free and unstructured. The gymnasts were deciding themselves how to practice with their tools. They took turns discussing, instructing, teaching and practicing with each other.

In another part of the gym, the other four gymnasts were practicing with hula hoops. Jisun, the leader shouted, “I can throw three hoola hoops with both hands!” Miran said, “I can throw Sunghye three hula hoops to catch.” Sunghye received them, and then threw a hula hoop. Athletes Miran, Sunghye, and Ohjung were running and rolling through the hoops. The coach, Jimin, then interrupted and instructed, “Think about what you can each do with the hoola hoop, and then practice by yourself.” After this, Jimin left the gym and did not return for the remainder of the session.

After Jimin left, the gymnasts started talking to each other with Jisun, the leader, doing most of the talking. Jimin asked each of them “What performance can you do?” All gymnasts discussed various activities they could do together. Then Jimin looked for a video on her cell phone to learn how to use her tool. Soon afterwards, all six gymnasts laid down their apparatus to watch videos about various gymnastics tools on their cell phones. For thirty minutes, the athletes searched for videos on their phones, watched them and took notes. Sometimes they were lying down on the gym floor, and at other times, they were sitting up. Throughout the activity, they were exchanging opinions and ideas and analyzing the videos that they watched.

Observation 5 Reflection. When the coach left, the gymnasts did not seem to know what apparatus to choose, or how to use it. They needed to decide on a tool, create a routine and learn how to perform it. The gymnasts tried several different techniques amongst themselves, taking turns showing ideas and then trying to replicate each other. After an amount of time had passed with little success, all six athletes decided to watch rhythmic gymnastics videos on their cell phones. As they watched the videos, sitting down or laying relaxed on the mats, they freely discussed their ideas and expressed their opinions about how to move forward. This showed that despite the lack of specific guidance from the coach, the gymnasts were still able to work well together, stay on task and to some degree, teach themselves maneuvers.

In the observation, the gymnasts displayed significant teamwork. The manner in which the hoops and clubs were thrown had to be the exact same height, angle, rotation and speed every time. This was not an easy task to accomplish. They practiced multiple

times, took turns with both apparatus, throwing and catching, switched partners, observed and even recorded the movements with their cell phones to evaluate their progress afterwards. The gymnasts all had extreme difficulty learning how to use their tools, dropping them, and displaying confusion as to how to throw or catch them to one another. Despite these challenges, the gymnasts would simply discuss, evaluate and try their routine again. They would meet success once and then fail multiple times afterwards. Despite their continued failure, the athletes persisted and worked reasonably well together. They were committed to improving and doing the best that they could during the practice.

Motivating Factors for Continued Participation

The case study of Observation 5 provided an excellent introduction as to the existence of motivation in rhythmic gymnastics. The athletes were clearly motivated to stay at the practice, even though the coach was not present. They even took initiative to practice, work with one another, research and teach each other new skills which they did not know before. This could have been a frustrating experience if they were not motivated in some way to participate in the activity. Interviews were utilized to provide further clarity into specific categories of motivation and demotivation in rhythmic gymnastics.

While there are obvious pressures and stresses related to body ideals and performance in rhythmic gymnastics (as evidenced by the sometimes extreme measures athletes will pursue for weight loss and extreme flexibility training they must endure), there are also a number of compelling reasons why athletes continue in the sport. Athletes who continued, noted that not only was the sport fun, but that it gave them the

opportunity to experience success and the feeling of accomplishment. Participating in this sport also helps athletes build self-confidence. Successful participation in this esteemed extracurricular activity also helps athletes be more competitive in the college admissions process. Finally, appropriate support and encouragement from coaches and family members contributed to athletes continued participation in the sport despite the challenges involved.

Enjoyment. Interviews with athletes indicated overwhelmingly that the reason gymnasts continue to participate despite the challenges involved is because they find the activities enjoyable. They enjoy the exercise, time spent with peers, learning new activities and the competitive performances. Those who continue with the sport are internally motivated to do so because of the intrinsic pleasure they receive from participating. Not all athletes are suited for rhythmic gymnastics, but those who are find great enjoyment from being a part of the activity. To them, the sport is simply fun, not a chore or forced activity that they unwillingly participate in for other external reasons. Sunyun reinforced this point in her interview by describing how the sport is simple “a good fit” with some individuals:

I liked rhythmic gymnastics, so I kept on going. Other colleagues have many friends who quit in the middle. When I asked them why they quit, they said, ‘I could not do it,’ ‘This was the worst exercise in my life,’ or ‘It was not that much fun.’ But others who stayed with it said, ‘I am a good fit with this activity,’ and ‘It was hard, but fun’. (Sunyun, Interview 2)

Typically, it is easier for an individual to enjoy activities that they are good at, however, Nahyun indicated that even though she was not good at the sport, she still

thought it was fun. She personally enjoyed the physical exercise and workout she achieved during practices:

I did not do well when I was a participant, but it was fun. I do not know why it was so fun, but rhythmic gymnastics was more fun than studying. I liked sweating when I was doing routines along with the music. I felt bliss. (Nahyun, Interview 15)

Surprisingly, some athletes found so much enjoyment in the sport that even injuries did not deter them. The occasional injuries and pain were overshadowed by the joy experienced from succeeding at a task after multiple failed attempts. Sunghye finds so much enjoyment in the sport that when she is participating, the world around her disappears as she intently focuses on the activity, forgetting her surroundings. Sunghye describes the feeling of “bliss” she experiences, despite getting hurt, while participating in rhythmic gymnastics:

My favorite element was the clubs, and I had a strange feeling of joy when I was exercising. If you get hit by a club, it hurts. When there is a very difficult move, if you fail to practice, it hurts. Even though sometimes I got hurt, I was so happy when I succeeded. If you practice what you have never done before and succeed, it feels so good. I felt bliss in those moments. I do not see anything around me when I am trying to match my moves to the music. I can only feel the music and see the movements of my body. I cannot even hear what people are saying I am so focused. I'm crazy about it here. (Sunghye, Interview 4)

One of the reasons athletes give for continuing with rhythmic gymnastics despite difficulties and even pain, is that they consider it to be enjoyable. In some cases, even regardless of ability, interviewees still thought it was a fun activity, even when they performed badly or got hurt during exercises. Training was consistently described as

difficult, but fun, and more than one interviewee described a feeling of bliss while they participated. Furthermore, when difficult movements were mastered, it only provided further motivation to want to continue with the sport.

Experience of Success and Achievement. In Interview 4, Sunghye alluded to the motivating factor of success as a reason for continued participation, though her emphasis remained on the feeling of ‘bliss’ she received. Rhythmic gymnastics provides multiples opportunities for rewards as individuals and as a team at the local, national and international levels. Though a team sport, individuals are able to showcase their own talents and abilities as part of the group and thus improve upon their natural strengths. This unique aspect of the sport gives athletes the opportunity to win various awards at different levels. As they improve their skills, their abilities are recognized and they can move up in difficulty level, become leaders or move on to be national representatives. The ability to move up and the recognition received for achievements is highly motivating for continued participation. Junga described how such recognition motivated her to continued:

I think it is better to develop gradually. Getting on the youth team is a dream of middle school gymnasts since they were in elementary school. After the youth team is the national standing team, and then the national representative is selected. Right when I tried to quit, when I was in junior high, the youth team was selected, and I was selected as a top representative and trained as a youth representative. I was also given the opportunity to practice with the national team under the authority of the national coach. It is only in rhythmic gymnastics that I have consistently made effort. I think rhythmic gymnastics is the only thing that can provide me with such an opportunity. So I think I will continue as long as I can. (Junga, Interview 1)

The experience of success and achievement for Junga was the primary reason why she continued in the sport. When this gymnast was about to quit, she was accepted onto the youth team and given the opportunity to practice with a national team coach. Receiving prizes and acknowledgements, as well as advancing in levels were also major motivating factors. Even though rhythmic gymnasts consider the training to be difficult, they can continue to develop their skills and get better, experiencing various successes along the way, which build their commitment to the sport.

Self-confidence. Participation in rhythmic gymnastics allows athletes to showcase individual skills, build an identity, and grow in teamwork and leadership abilities. This leads to the growth of self-confidence as athletes both recognize their own talents, and are recognized by others. In observations, athletes were given relative autonomy over their practice sessions and routine development. This autonomy allowed them to independently learn and grow, naturally building confidence in themselves when they met success. Rather than being motivated by extrinsic factors rhythmic gymnasts are able to be motivated by intrinsic factors as they tangibly see their own personal development in the sport. Eunjoo described how the personal progress she saw in herself in terms of flexibility motivated her to continue:

Flexibility is important in rhythmic gymnastics, and I was very stiff. But the only thing that I did well was the turn. These days, the skills are very similar, so the turn becomes more important. I seem to have been able to continue because I have a specialty. (Eunjoo, Interview 6)

Rhythmic gymnasts all have different strengths and abilities, not every gymnast is the same. With a good coach, these gymnasts are encouraged to develop the specialty skill where they excel the most. This builds self-confidence because they are able to continue in the sport by excelling in their strengths, while continuing to work on their weaknesses.

Autonomy is also an important factor for the development of self-confidence. In observations, athletes were given a great deal of autonomy which helped build confidence in their own abilities, thus motivating them to continue with the sport. Gymnasts participated not because they were forced (in fact, for most observations, the coach was not even present), but because they intrinsically felt it was important to do so. Even without outside supervision, gymnasts practiced, researched and helped one another build their skills. In Observation 6, for example, athletes continued to practice despite multiple failures and a team leader would instruct the other team member on how to improve:

The hoops and clubs needed to be thrown and caught at the same time. Each of the six athletes took turns with both devices so that they could all get practice with both tools. They kept swapping, but it was not easy for them, and they kept failing to complete the routine. When they failed, they would stop, discuss the error with each other and then try again. They would increase the distance of the throws as well, and as needed, the leader would step out and give individualized instruction and feedback. (Observation 6)

The manner in which the hoops and clubs were thrown had to be the exact height, angle, rotation and speed every time. This was not an easy task. However, gymnasts practiced multiple times, took turns with both apparatus, throwing and catching, switched

partners, observed and even recorded the movements with their cell phones to evaluate their progress afterwards. When they finally met success they were filled with joy and even more motivated to continue. Their self-confidence was fostered because they were able to perfect their skills on their own without the coach's direct influence.

Throughout observations, the coach was rarely present, giving a great deal of autonomy to the gymnasts. This demonstrated that it was essential for the team to work well together, especially when there was no official authority figure present. The coach was not present to guide, punish, instruct, or observe their behavior. The team needed to hold each other accountable for their actions and behavior. They inspired dedication, persistence and determination in each other, which built both self-confidence and motivation, as they supported one another through stretches, practices, painful exercises, difficult maneuvers, and even as they self-taught one another new routines.

College Admissions. College admissions is a highly competitive process and prospective college applicants must build their applications with not only high grades and test scores, but with successful outside activities as well. Long term participation in rhythmic gymnastics can give applicants a significant edge in the admissions, but only if they are successful. Consistent participation over multiple years shows dedication and persistence, and, if the athlete is able to earn recognition for their abilities, they may grow leadership skills and earn awards which will help their applications even further. The desire to attend a good university, therefore is a highly motivating factor for continued participation in the sport:

If I said I had not thought about admission to college in my decision to stay with rhythmic gymnastics, I would be a liar. As an athlete, I once dreamed of becoming a national representative, but I had to give up because I had a severe injury. (Skye, Interview 2)

Sunyun's motivation for continuing with rhythmic gymnastics was in order to help gain admission to college. Unfortunately, she was injured and could not move forward in the sport to gain the recognition needed to really help her application. Sunyun was very disappointed with this outcome. College admissions is an extrinsic motivating factor for participation, and if injury occurs, or an athlete cannot achieve the recognition they think they need, it can be detrimental to their motivation, unless there are other motivating factors present. Multiple athletes described college admissions as a motivating factor for participation in the sport, including Miran, who unlike Sunyun, achieved recognition which helped her to realize her dreams:

I did not begin rhythmic gymnastics until the first year of high school, and I knew that I could not be a national gymnast because of my ability. From then on I decided to pursue this activity with a focus on getting into college. I earned an award in gymnastics, and applied to college. At that time, my dream was to get a prize and to go to a good university. My skills were recognized, and because of this, I was able to accomplish both of my goals. (Miran, Interview 3)

Entrance to college is a primary concern for all rhythmic gymnasts. If they perform well and their achievements and successes earn awards, this will help them be admitted into a top university. Even though the dream of a national representative could not be achieved by Miran, admission to the college of her choice was achieved partly because of her determination and dedication to the sport.

Influence of Family and Coaches. Several athletes indicated the support of family and coaches as a significant motivating factor for their participation. At a surface level, such motivation is extrinsic, but it can develop lasting intrinsic motivation as well if such support is consistently positive, motivational and long lasting. Participants may be initially driven to participate in the sport because of siblings or parental influence, but if these siblings and parents subsequently provide consistent encouragement and positive reinforcement, athletes develop the desire to continue with the sport on their own, regardless of this outside influence. Often families will have more than one child participating in rhythmic gymnastics, which was the case for Sunyun. While Sunyun suffered in later years of participation in the sport, affecting the college admissions motivating factor, she had continued positive influence from her mom and sister:

I think my mother and sister were my driving force to stay in gymnastics. My sister's influence was particularly significant. My sister was athletic, but when she did well, she said it was because she was trying to be like me. (Sunyun, Interview 2)

Sunyun's sister looked up to her, which motivated Sunyun to want to do well. Sunyun wanted to be a positive influence on her already athletic younger sister. The influence of having someone you love look up to you, and a parent express pride in your achievements and commitments is highly motivating.

Positive support and dedicated leadership from coaches also motivated some athletes to continue with the sport. In the case of Sunhee, her mother encouraged her not

to give up despite difficulties, and she had a perceptive coach who knew how to balance Sunhee's strengths and weaknesses:

When I wanted to quit, my mom said, 'Hold on until the third hour,' and the teacher also said, 'If you cannot do it, tell me'. (Sunhee, Interview 5)

In other interviews, gymnasts expressed the primary motivation for continuation in the sport as related to the coach. Nayoung, for example, described how her coach recognized when she was experiencing a plateau in advancement. At that time, rather than receiving scolding or punishment, the coach helped her to move past it.

When I experienced a slump, my teacher helped me. I am so thankful for my coach. (Nayoung, Interview 13)

When athletes experience mentorship and positive reinforcement from their coaches, they are far more likely to continue long term with the sport, than those who receive primarily negative reinforcement and punishment for failures.

The support of the athletes' families and coaches was an important factor in the athletes continuing their training as rhythmic gymnasts. The athletes' families were sometimes role models, sometimes looked up to the athletes, and the advice of the parents and coaches sustained the athletes when they were experiencing a slump. One of the primary reasons for continued practice of rhythmic gymnastics despite the difficulties, is the encouragement and moral support gymnasts receive from their families. When the gymnasts have people who believe in them and motivate them to never give up, they continue in the sport much longer, have greater success and more fun.

Motivating Factors for Ending Participation

When investigating the reasons for participation in rhythmic gymnastics, the factors that contribute to stopping naturally arise. To some extent, the motivations for continuing and stopping are inexplicably linked. If a coach's positive influence is the primary motivating factor for an athlete's participation, and then the coach leaves, or the gymnast gets a new coach who is not as supportive, the athlete may quit. For each motivational category, therefore, there is a demotive counterpart. There are, however, also a few independent but significant factors that lead to an athlete ending participation in the sport.

Observations and interviews indicated that there are five primary factors which cause a gymnast to quit rhythmic gymnastics. Loss of enjoyment due to excessive training, hitting a plateau in progress, and problems with coaches are all negative counterparts to the positive influencing categories. Just as enjoyment is a motivational factor, a loss of enjoyment because of excessive training is a demotivating factor. If a gymnast experiences success and achievement they are more likely to continue, and if they instead hit a plateau in progress and are unable to achieve, they are more likely to quit. Furthermore, if coaches are positive and encouraging, a player is motivated to continue, but if a coach is harsh and ignorant to a gymnast's needs, they are more likely to leave the sport.

Aside from loss of enjoyment, plateau and coach problems, difficulties with weight loss and injury are additional factors that contribute to an athlete's decision to leave the sport. These later categories are more closely related to an athlete's inability to

meet demands necessary for a good performance. The primary research question of this study determined that appearance, flexibility and strength were primary factors necessary for a good performance in rhythmic gymnastics. If, however, an athlete is unable to lose weight, and therefore fails to meet perceived appearance standards, they may lose motivation to continue. Likewise, if a gymnast suffers an injury, even a minor one, they may lose flexibility and strength, also critical factors for a good performance. If an athlete continually underperforms because of injury, lack of flexibility, or poor appearance, they will be highly discouraged, reach a plateau in their ability and fail to earn rewards and recognition necessary to motivate them to continue through difficulties. Depending on the severity of the injury, the athlete may not be able to perform at all, which results in a forced leave of the sport. While all factors are important in an athlete's likelihood for leaving the sport, weight management concerns were particularly influential in deteriorating motivation and distinguishes rhythmic gymnastics from other sports.

Excessive Training and Loss of Fun. Rhythmic gymnastics, which often starts a just a fun hobby in elementary school, becomes increasingly difficult as gymnasts get older. One of the factors that lead to gymnasts' desire to quit is that the training becomes much more intense and serious, and the enjoyable nature of the sport is replaced by competition and expectations. The pain experienced through excessive flexibility training, for example is particularly difficult, as evidenced by Sunyun:

When I started rhythmic gymnastics as a hobby during elementary school, it was fun. However, I started practicing a lot and worked out considerably to make my body flexible. I did not want to continue because of the pain. There were times that coach pressed things too far and almost made me quit. (Sunyun, Interview 2)

Clearly coaches play an integral role in a gymnast's desire to continue with the sport. If a coach is motivating and encouraging, athletes want to continue, but if a coach is too demanding and cannot recognize the unique limitations of the athlete, the athlete may quit. Excessive 'flexibility' training was especially remembered by this interviewee as a painful exercise for many rhythmic gymnasts. Excessive flexibility training can lead to discouragement and a loss of momentum, and subsequently the desire to quit the sport.

Observation 4 exemplified some of the extreme training methods athletes had to endure in order to improve flexibility. The gymnasts were obviously in pain and yet continued with their extreme stretching methods:

After these warm-up exercises, the gymnasts set up a small mat. They positioned themselves into a split where instead of the legs being off to the sides, one leg was stretched in front of them, and one leg behind, while they maintained straight backs and knees. After doing this without props, they then used chairs and cushions to further prop up their feet... As time passed, the gymnasts appeared to be in pain, even though it was clear that this was not the first time they had done this activity. Even though the gymnasts were obviously in pain based on sounds and facial expressions, not a single gymnast stopped the activity before the time was up. When the stretch was over, they all stood up, shook out or massaged their legs, and repeatedly jumped in place. (Observation 4)

Without positive motivating factors, excessive training such as that described in Observation 4 would certainly lead to athletes quitting the sport. Gymnasts cannot continually experience pain and difficulties without positive reasons for continuing. If the excessive training outweighs the fun involved, athletes will be demotivated to continue and leave the sport.

Failure to Grow and Plateau. A secondary factor which leads to loss of motivation and an athlete's desire to quit the sport occurs when they fail to grow or reach a plateau in their ability level. The nature of rhythmic gymnastics is that there are multiple levels and athletes continually advance from level to level, receiving recognitions or awards along the way. This allows athletes to continually perfect existing skills and subsequently learn and practice new ones. This progression of skills and levels allows them to build self-confidence and earn awards which can help with college admissions as well. Sometimes, however, athletes will plateau in their ability. Regardless of time spent practicing, occasionally body limitations will prevent them from advancing. This is detrimental to motivation because advancement is a key component in the sport. If a player ceases to improve, they will remain in a lower level while they watch their peers and teammates continue to excel. A player can only remain in a plateaued state for so long, without receiving accolades before they lose motivation entirely and drop out, believing that they've gone as far as they can go. Eunhye described this sentiment perfectly:

I was never able to improve my ability in junior high school, and I had a lot of slumps. I really wanted to quit during that time. (Eunhye, Interview 12)

In another interview, Junga described how she actually quit rhythmic gymnastics, despite finding it enjoyable, mainly because of her lack of skill improvement:

I was in training for two years with my new coach in junior high school. But after two years of training, my skills did not improve. Most of the other gymnasts who use the same mat have become elite athletes since elementary school, so I was not

able to get into the final game. The exercises were fun. The new coach was fun, and there was no trouble or difficulty in training. However, when I did not improve my ability, I felt very frustrated and underwent a lot of psychological stress. I thought, 'What the hell is the matter with me?' And when I was in my junior high school, I had to quit the activity and find another activity to join. (Junga, Interview 1)

Failure to improve and hitting a plateau in skill level were consistently indicated as important factors for individuals who considered stopping rhythmic gymnastics, just as success and the feeling of accomplishment were important factors in continuing the activity for athletes. The experience of not being able to develop new skills and not being able to achieve awards for long periods of time can be psychologically damaging to athletes. There is a need to see occasional progress in ability, or frustration sets in as an individual sees other team members progressing while they remain stagnant. Furthermore, since participation in the sport, with the intent to earn awards to help gain admission to college is so important, if an individual is not able to earn such rewards, the motivation to continue decreases considerably.

Problems with Coach. Disagreements with coaches was another significant motivating factor for athletes who wanted to stop rhythmic gymnastics. Coaches are incredibly integral to gymnasts' success, their confidence, motivation, and development. Just as good coaches can be a primary motivating factor for participation, poor coaches can be a factor for demotivation. If there is a conflict between a coach and a gymnast, it will be very difficult for the gymnast to succeed. Coaches may be too harsh, implement excessive punishment for failure, be critical in terms of weight or appearance, or give disproportionate criticism while lacking positive encouragement. The dysfunctional

coach-athlete relationship may not initially cause a player to abandon the sport entirely, but at first propel them to find a new coach. If a gymnast has multiple negative experiences with coaches, however, or one severely negative interaction, they may permanently lose motivation and end participation altogether. Sunghye described a negative interaction with her coach, and how she chose to remain with him anyway, because she needed the activity to improve her odds of college admission. College admissions was more of a motivating factor for her and allow her to endure an unreasonable coach:

There were three times I tried to quit, two were because of my parents, and one because of my coach. My parents told me to invest money in something else because my scores were so low. Once I even had a fight with my coach during my senior year of high school. I was hurt while I was practicing, and the coach did not know it, and I was angry because I could not perform the way he wanted me to. So, that is when I tried to quit rhythmic gymnastics. However, in the end I didn't quit because I was a high school student and needed this activity to help get into a good college. (Sunghye, Interview 4)

Sunhee described problems with a coach who almost caused her to leave the sport as well. She wanted to change coaches, but she described this as a difficult process:

My coach was a teacher who was very scary. I was so angry and it was very stressful. I acted very much on my mood. I could have changed teachers or went to another team to work out, but it would not have been easy. I already had a lot of routines worked out with my teacher, and adapting to another team would have been really difficult if I wanted to change my coach. (Sunhee, Interview 5)

Several other interviewees noted that they had actually replaced their coaches on at least one occasion in order to continue in rhythmic gymnastics. In extreme cases, an

athlete's negative experience with a coach can be so demotivating, that they decide to quit the sport entirely. Changing coaches or teams is always a difficult decision.

Difficulties with Weight Loss. Another key contributing factor for athletes who end their participation in the sport revolved around weight loss difficulty. This subcategory links together both research questions in this study. Appearance (most notably weight and having a slim body) was identified as one of the most important factors for a good performance. Therefore, it was not surprising that interviewees described the inability to lose weight as a primary reason for loss of motivation. An athlete may try multiple methods to control their weight, which in themselves may be demotivating because of their negative physical and psychological effects. If despite such extreme and difficult efforts to lose weight, the gymnast is still unable to meet appearance ideals, an athlete is highly likely to quit the sport. In interviews, gymnasts gave multiple reasons for an inability to lose weight, and described many different demotivating weight-loss methods. Eunhye, for example, was so stressed because of a minor weight gain that occurred due to menstruation, that she 'wanted to die' and would wear winter jackets during summer in an attempt to meet weight loss demands:

I started menstruation when I was in middle school, and my body experienced very big changes. Physically, I pushed myself very hard while I was exercising, but it was difficult to lose weight. My coach was very strict about weights in high school. I ate very little and had to run often because of my weight gain, and I thought I wanted to die at that time. Because of my weight, I used to wear a winter jacket in summer in order to sweat, and would go to the playground to work out for three hours at a time, until I lost weight. (Eunhye, Interview 12)

Jisun, the team leader during observations, also described her difficulties in losing weight, and the unsympathetic punishments inflicted by the coach for weight gain:

It was physically difficult for me to lose weight. I could not eat well, and exercise was very difficult too. I did not eat because I did not want endure the coach's penalties if I gained a lot of weight. So, I fainted due to exhaustion. But, the teacher had me continue with my exercises anyway. (Jisun, Leader, Interview 7)

Some athletes may have difficulty losing weight either because of their body type or metabolism. Even menstruation may lead to difficulty with weight loss for some athletes. None of these reasons immune the athlete from the need to lose weight, however. Expectations for weight maintenance remain the same regardless of health issues.

Gymnasts who have an especially difficult time losing weight will take extreme measures which can damage their physical and psychological health. Because of the emphasis on weight loss in rhythmic gymnastics, a gymnast's inability to lose weight is a significant factor in their desire to quit the sport.

Injury. The final contributing category for an athlete's loss of motivation is injury. Not all injuries lead to the necessary abandonment of the sport, but many injuries can make success in gymnastics quite difficult. Like any sport, certain injuries can be detrimental to participation, but many injuries, with proper treatment, rehabilitation and enough time can be managed. The difficulty is that in rhythmic gymnastics, time to heal is not a luxury afforded to athletes. Athletes are most successful in the sport if they start young and continually and incrementally improve their skills over several years. If an athlete's injury causes them to take a hiatus in the sport for even a few months, they may

fall behind other athletes of their age group and be unable to catch up. Furthermore, because flexibility and strength are such integral components to a good performance, if an injury causes even a minor loss in flexibility or strength, an athlete may have a difficult time compete or score well, and peers will not desire to have an inflexible athlete on their team. Even if an injury does not permanently prevent participation in rhythmic gymnastics, it may very likely prevent successful participation. When interviewed, Eunjoo described how an injury prevented her from advancing in the sport, thus decreasing her odds of admission to a top university:

I was not injured since I was two, but I did have a broken hamstring when I was in high school. I regret this because I think I could have been a national team representative. After the injury, however, I felt like an elite athlete who had to abandon their dream of becoming a national gymnast, and lower my expectations for college admission. (Eunjoo, Interview 6)

Severe injury causes forced abandonment of the sport, but even minor injuries lead to demotivation when such injuries affect an athlete's ability to advance and earn awards. For an elite athlete especially, injury is one of the leading factors that can result in quitting the sport, and can be psychologically detrimental as well. Especially in cases of significant injuries such as damaged hamstrings, for example, a gymnast may be forced to give up an activity they both love and are very good at.

The Significance of Motivation in Rhythmic Gymnastics

Despite the difficult practices, painful and excessive flexibility training, and extreme appearance standards that lead to physically and psychologically damaging weight loss practices, some rhythmic gymnasts remain active participants in the sport.

Understanding motivation for participation, therefore was a critical research objective in this study, to understand how athletes can endure such difficulties and continue to perform well. Likewise, insight into what leads to a loss of motivation for those who decide to quit allows for greater understanding of the critical nature of appearance, flexibility and coach influence in the sport.

Rhythmic gymnasts who have stayed with the sport indicate that one of their motivating factors is that they simply find it fun and enjoyable. Part of the reason for this enjoyment is that the activities may suit their skills and personality, and they enjoy being able to learn and grow. The fact that they view the sport as fun may also come from motivational, encouraging coaches who help athletes excel in their strengths while improving upon their weaknesses. Earning of awards and recognitions is also very motivating, and allows the gymnasts to build self-confidence while experiencing success and achievement. Even when their skills are not good, the motivation of attending a good college propels them to try harder, and the support of encouraging family members and coaches prevents them from quitting, even when things get hard.

Motivations for continuing rhythmic gymnastics are closely linked to the reasons why some gymnasts choose to quit. When the element of fun is replaced by difficult and extreme exercises, some athletes may lose the desire to continue. Furthermore, when untimely injury strikes an individual or they reach a plateau and can no longer improve or earn awards, they are either forced to quit, or become so frustrated that they feel there is no other option. Coaches play perhaps the most integral role in a healthy gymnast's desire to continue with the sport. A good coach who understands their team's strengths and

weakness will help them succeed, while a controlling coach who does not consider the physical or health limitations of the gymnasts will drive them to abandon the sport. The consistent theme of appearance and an inability to lose weight is highly demotivating. If an athlete has a particularly difficult time losing weight and is punished for an inability to meet a coach's demands, they are very likely stop participating in the sport altogether.

The results of the Observation 1: Ribbon Practice case study provided insight into a typical rhythmic gymnastics practice session. This allowed for a baseline understanding of the sport and its important components, as well as an introduction to the dynamic between the athletes on the team. The Observation 5: Using Tools and Self-Instruction case study provided further understanding into the motivation for participants in the sport. Interviews supplemented observations and indicated appearance and flexibility as key factors for a successful performance in the sport. Extreme strategies utilized for maintaining an ideal appearance (low weight and slim body) were also identified, which led to the secondary research objective of understanding motivational factors for participation, despite the stresses and pressures involved in maintaining a low weight. It was determined that despite the difficulties of participation in rhythmic gymnastics, and the extreme weight-loss and appearance expectations, athletes who found enjoyment in the practice, experienced success and recognition for achievements, and built self-confidence were more likely to continue. Finally, the emphasis on improving odds for college admissions by involvement in the sport, and the positive influence of encouraging family and coaches motivates athletes to endure and succeed despite the challenges they may face.

CHAPTER V

DISCUSSION

The purpose of this research is to understand body perceptions and motivation in rhythmic gymnastics. Specifically, the attitudes of female college rhythmic gymnasts in South Korea were investigated through a series of interviews and observations. There are two primary research questions in this study. First, what are the important factors for a good performance in rhythmic gymnastics? Specifically, how do rhythmic gymnasts perceive the importance of body appearance (e.g., physical size or shape) in the sport? Second, what motivates rhythmic gymnasts to participate in the sport, and what leads them to stop participating? The results showed that body size and appearance were highly important for a successful performance in rhythmic gymnastics. Results also indicated that greater emphasis on appearance and body issues (by athletes, coaches, family members, etc.) was related to extrinsic motivation and can lead to stop participating in sports.

Body Ideals and Appearance in Rhythmic Gymnastics

Previous researchers have shown that athletes have more positive self-perceptions than non-athletes (Evan et al., 2007; Marsh, 1998; Marsh et al., 1995; Park, 2010). However, some studies have shown that participants in gymnastics, figure skating and dance experience more body dissatisfaction than participants in other sports. In particular, athletes who participate in aesthetic sports experience higher body dissatisfaction than

participants in other sports (Reel & Gill, 1998; Reel, et al., 2005; Swami et al., 2009).

Moreover, previous research indicated that athletes in aesthetic sports have also reported higher weight concerns and higher risk of eating disorders (Reinking & Alexander, 2005; Torstveit et al., 2008).

Body Dissatisfaction in Rhythmic Gymnastics

The findings of this research were consistent with previous research, reinforcing the low-body satisfaction and high emphasis on weight concerns in aesthetic sports.

Rhythmic gymnastics tend to emphasize womanly “beauty” and “appearance” more than other sports. The rhythmic gymnasts demonstrated that not only is aesthetic physical beauty important, but the beauty of the performance is important as well. Especially, the “line” of the body is essential in rhythmic gymnasts. Interviewees reinforced the emphasis on appearance and indicated that the “gaze” of viewers, coaches and judges tends to concentrate more on athletes with thin physiques rather than on those who are even slightly overweight. Then, rhythmic gymnasts demonstrated that “appearance” is necessary for success and for achieving a good score in rhythmic gymnastics.

Specifically, most rhythmic gymnasts consistently said that the ideal body for a Korean rhythmic gymnast would be 168cm (5'6") tall with a weight of 48kg (106lbs). This is both taller and lighter than the average height and weight of Korean women, which currently stands at 162cm (5'4") and 54.4kg (120lbs). Because this standard came up repeatedly in the interviews, it is a significant variable in the determination of the ideal body type for this sport. The closer athletes approach this standard, the more beautiful

they are considered, the more attention they get, and the higher their scores are likely to be.

All interviewees in the study repeatedly stressed that “appearance” (i.e. having a slim body) is an essential component for success at the highest levels of rhythmic gymnastics. Athletes, therefore will undertake sometimes extreme measures in order to maintain the slim body necessary for good performance, and it implied that rhythmic gymnasts experience high body satisfaction and social physique anxiety.

Weight Concerns

Previous research indicated that female athletes at higher risk of eating disorders than male athletes (Greenleaf, Petrie, Carter, & Reel, 2009; Petrie, Greenleaf, Reel, & Carter, 2009; Sanford-Martens et al., 2005; Sundgot-Borgen & Torstveit, 2004; Torstveit, Rosenvinge, & Sundgot-Borgen, 2008). Considerable research also supported that certain lean-sports may have a higher risk of eating disorders than other non-lean sports (Choi, 2000; Nordin, Harris, & Cumming, 2003; Smolak, Murnen, & Ruble, 2000). For instance, Smolak, Murnen, and Ruble (2000) revealed that in a meta-analysis of the relationship between athletic participation and eating disorders, female athletes competing in elite, lean sports, especially dance, incurred a higher risk of eating disorders. Although existing research has not specifically investigated rhythmic gymnastics (which is a lean-sport), results from this study’s observations and interviews supported and added further insight into these findings.

Several studies attribute the high rates of eating disorders in the aesthetic sport culture to an emphasis on extreme thinness. Nordin, Harris, and Cumming (2003)

examined three different types of gymnastics: artistic, rhythmic, and sports acrobatics. The results showed that rhythmic gymnasts reported higher ‘drive for thinness’ and higher eating disturbance than artistic gymnasts and sports acrobats. In this research, South Korean rhythmic gymnasts indicated that nearly all participants in the sport practice some form of weight management in order to improve their appearance and performance. Some of the methods used to control weight include ‘dieting’, ‘food deprivation’, ‘fasting’, ‘limiting carbohydrate intake’, and ‘replacing meals with water’.

Some forms of weight management are more extreme than others. This research showed that bulimic and anorexic behaviors were quite common, and many interviewees had tried either vomiting or starvation at least once. Other techniques, such as taking prescribed weight-loss medication and laxatives, were also used, along with maintenance techniques and other less frequently used methods. Taking medication was often seen as an easier method than starvation or extreme physical workouts. Fat-splitting injections, normally given at the hospital, are also used by some gymnasts, but it was noted that the effects of these were only temporary and did not lead to long-lasting weight-loss. Injections do, however, give the appearance of thinner and smoother thighs, which is also important in an overall appearance strategy within the sport.

Coach Influence

In the previous research, social factors, such as coaches, judges, and trainers, have also been studied, and the influences of interpersonal factors have been shown to contribute to disordered eating behaviors among athletes. For instance, many female athletes in aesthetic sports have experienced weight- or body-related harassment and

disparagement from their coaches (Berry & Howe, 2000; Rhea, 1998). This research also supports that some strategies are player-driven and dangerous to the player's health, while others are driven by coach weigh-ins or fear of excessive punishment for weight gain.

Cho et al. (1999) found in South Korea, most gymnasts (95%) reported having used weight-control methods, and that the motivational factors for their diets were "coaches and trainers" (75%). Heffner, Ogles, Gold, Marsden, and Johnson (2003) also compared gymnastics coaches and NCAA Division I coaches, and found gymnastics coaches were more concerned with monitoring and weight management behavior than coaches from other sports, and reported more eating and weight-related problems in their athletes.

In this research, the coaches' influence was shown to be a significant factor for those who practiced excessive forms of weight management. Some forms of weight management are more extreme than others, but when excessive weight management is practiced, it is mostly at the demand of the coaches. The majority of coaches measure athletes' weight on a daily basis. Even for athletes who would not normally worry about their weight, the reprimand and punishment for weight gain by their coaches could force them to take extreme measures to control it. One interviewee indicated that if a player's weight had increased, the coach would penalize that athlete by making her excessively repeat a series of difficult training exercises. A coach's influence on athletes' weight management is thus a significant strategy for modifying the athletes' bodies in an attempt to improve both appearance and performance.

Appearance (i.e. having a slim body), therefore, is a very important factor for a successful performance in rhythmic gymnastics, and many coaches make decisions about the need for weight loss in their athletes on the basis of appearance. This research supported that coaches' comments on appearance can have a powerful impact, causing significant social pressures on athletes.

Motivation in Rhythmic Gymnastics

Self-determination theory (SDT) proposes that motivation is multi-dimensional and is a continuum of self-determination, ranging from amotivation through extrinsic motivation to intrinsic motivation (Deci & Ryan, 1985). According to Deci and Ryan, there are three psychological needs that motivate the self to initiate behavior and enhance motivation in the direction of self-determination: perceptions of competence, autonomy, and relatedness.

Intrinsic motivation generally refers to performing an activity for oneself, as well as for the pleasure and satisfaction derived from participating in such activity (e.g. Deci, 1975; Deci & Ryan, 1985). Athletes who engage in their sport because of the internal pleasure they derive from it exemplify individuals who act out of an intrinsic motivation.

Extrinsic motivation characterizes activities that are performed in order to obtain some separable and external outcome, whether it be a reward, avoidance of punishment, or for the attainment of recognition or approval (Ryan, Williams, Patrick & Deci, 2009). Athletes who participate in sports simply to please their parents or friends exemplify individuals who act out of an extrinsic motivation (Vallerand, 2001).

Basic Psychological Needs

Self-determination theory posits that motivation is enhanced through the fulfillment of the three basic psychological needs of competence, autonomy, and relatedness. When individuals are motivated by more self-determined reasons, they are more likely to continue sports. This research showed that fulfilling the basic psychological needs of autonomy, competence, and relatedness can foster greater motivation in the direction of self-determination in sports.

Specifically, the experience of success and accomplishment for these participants was the primary reason why they continued in the sport. When one rhythmic gymnast was about to quit, she was accepted onto the youth team and given the opportunity to practice with a national team coach. Receiving prizes and acknowledgements, as well as advancing in levels were also major motivating factors. Even though rhythmic gymnasts consider the training to be difficult, they can continue to develop and get better, experiencing various successes along the way which build their commitment to the sport.

This research also supported that self-confidence is important to continue sports. In observations, athletes were given relative autonomy over their practice sessions and routine development. This autonomy allowed them to independently learn and grow, naturally building confidence in themselves when they met success. Rhythmic gymnasts all have different strengths and abilities. Not every athlete is the same. With an autonomy-supportive coach, gymnasts are encouraged to develop the specialty skill where they excel the most. This builds self-confidence because they are able to continue in the sport by excelling in their strengths, while continuing to work on their weaknesses.

In addition, this research showed that the support of the athletes' families and coaches was an important factor in the athletes continuing their training as rhythmic gymnasts. The athletes' families were sometimes role models, sometimes looked up to the athletes, and the advice of the parents and coaches sustained the athletes when they were experiencing a slump. One of the primary reasons for continued practice of rhythmic gymnastics despite the difficulties, is the encouragement and moral support players receive from their families. When the athletes have people who believe in them and motivate them to never give up, they continue in the sport much longer, have greater success and more fun.

This research, however, also demonstrated that failure and hitting a plateau in skill level were important factors for individuals who considered stopping rhythmic gymnastics, just as success and the feeling of accomplishment were important factors in continuing the activity for athletes. The experience of not being able to develop new skills and not being able to achieve success for long periods of time can be psychologically damaging to athletes. There is a need to see occasional progress in ability, or frustration sets in as an individual sees other team members progressing while they remain stagnant. If an individual is not able to experience success and accomplishment, the motivation to continue decreases considerably.

For relatedness, this research also showed that disagreement with coaches was another significant factor for athletes who wanted to stop rhythmic gymnastics. Coaches are integral to players' success, their confidence, motivation, and development. If there is a conflict between a coach and a player, it will be very difficult for the player to succeed.

Many interviewees noted that they had replaced their coaches on at least one occasion in order to continue in rhythmic gymnastics. In extreme cases an athlete's experience might be so demotivating, that they decide to quit the sport entirely.

Intrinsic Motivation

Ryan and Deci (1985) distinguish between two main types of motivation: intrinsic and extrinsic. People are intrinsically motivated to participate in behaviors that are inherently interesting and enjoyable. Many researchers have emphasized self-determination theory or the importance of self-determined motivation in sport and exercise settings (Edmunds, Ntoumani, & Duda, 2006; Thorgersen-Ntoumani & Ntoumanis, 2006). In particular, self-determination theory (Deci & Ryan, 1985) helps one understand sports and exercise motivation and adherence. Some studies have shown that intrinsic motivation is important for long-term exercise and sport participation (Ingledeew, Markland & Medley, 1998; Ryan, Frederick, Lepes, Rubio & Sheldon, 1997; Thorgersen-Ntoumani & Ntoumanis, 2006). In this research, many rhythmic gymnasts confirmed that athletes are continuing sports because of the enjoyment they find in participating.

Interviews and observations showed that one of the reasons athletes give for continuing with rhythmic gymnastics despite the difficulty is that they consider it to be fun. In some cases, even regardless of ability, interviewees still thought it was a fun activity, even when they performed badly or got hurt during exercises. Training was consistently described as difficult, but fun, and more than one interviewee described a feeling of bliss while they participated. Furthermore, when difficult movements were mastered, it only provided further motivation to want to continue with the sport.

Rhythmic gymnastics, however, which often starts as just a fun hobby in elementary school, becomes increasingly difficult as players get older. One factor that leads to athletes' desire to quit is that the training becomes much more intense and serious, and the enjoyable nature is replaced by competition and expectations. Specifically, excessive "flexibility" training was remembered by one interviewee as a painful exercise for many rhythmic gymnasts. Excessive flexibility training can lead to discouragement and a loss of momentum, and subsequently the desire to quit the sport. Therefore, this research suggests that intrinsic motivation (e.g. pleasure or fun for itself) encourages continuing motivation and adherence in sports. Low intrinsic motivation (e.g. excessive training or loss of fun), however, may lead to the discontinuation of sport participation.

Appearance and Extrinsic Motivation

Extrinsic motivation characterizes activities that are performed in order to obtain some separable and external outcome, whether it be a reward, avoidance of punishment, attainment of recognition or approval (Ryan, Williams, Patrick, & Deci, 2009). There are various levels of external forces and behavioral regulation in extrinsic motivation: integrated regulation, identified regulation, introjected regulation and external regulation.

In this research, interviews indicated that many rhythmic gymnasts had difficulty losing weight. Rhythmic gymnastics is a sport that emphasizes beauty, and the body should be thin. Specifically, the visual visible line is important in rhythmic gymnastics. Most rhythmic gymnasts in this research stated that appearance is very important in rhythmic gymnastics Furthermore, rhythmic gymnasts linked appearance to weight in

their responses. Being thin was overwhelmingly equated with good appearance. Thus, it is implied that appearance and weight control for thinness raised extrinsic motivation in rhythmic gymnastics.

Some researchers have shown that motivation derived primarily from extrinsic factors may facilitate sport dropout as well as undermine the athletes' psychological well-being (Gagne & Blanchard, 2007; Sarrazin, Boiche, & Pelletier, 2007). Treasure, Lemyre, Kuczka, and Standage (2007), for example, suggested that burnout in athletes is associated with high levels of extrinsic motivation or amotivation. It seems therefore that maladaptive training will more likely shift to a more extrinsic motivational regulation, representing decreased levels of relative autonomy (Chatzisarantis & Hagger, 2007).

Some studies have demonstrated that intrinsic motivation (e.g., enjoyment of physical activity) can increase among participants in the long term, while appearance orientation may reduce intrinsic motivation and promote extrinsic regulation and amotivation (Gillison, Standage, & Skevington, 2006; Ingledew & Markland, 2008). Research by Gillison, Standage, and Skevington (2006) exhibited that a composite of fitness, mood, health, and enjoyment motives was positively related to autonomous regulation, whereas a composite of weight control, attractiveness, and body tone motives was negatively related to autonomous regulation. Ingledew and Markland (2008) also showed that the appearance/weight motive raised both external and introjected regulations and concluded that while extrinsic motives of appearance and weight loss might be a powerful means of engaging individuals in exercise in the short terms, these motives are unlikely to sustain lasting participation over time.

The interviews conducted in this research showed that because of the emphasis on weight loss in rhythmic gymnastics, an athlete's inability to lose weight is a significant factor in their desire to stop the sport. For instance, if an athlete has a particularly difficult time losing weight and is punished for being unable to meet a coach's demands, they are very likely stop participating in the sport.

Athletes who have an especially difficult time losing weight are more likely to take extreme measures that can be damaging to their physical and psychological health. One interviewee experienced so much pressure to lose weight that she contemplated death, and would wear winter jackets even during the humid summer months in an attempt to lose weight and meet body image demands.

Appearance is very important in rhythmic gymnastics. Rhythmic gymnasts consistently referred to weight as the primary appearance factor in this sport and noted that performances become increasingly difficult and more dangerous as you gain weight. The need for low weight and low body-fat was considered important because of the tightness of the uniforms players must wear. Furthermore, the thinness-ideal in this sport links good performance to beauty and higher scores. This research showed that gymnasts must wear short and revealing uniforms, and a thin appearance is thus necessary for rhythmic gymnasts. The findings suggest that the appearance/weight motive raised both external and introjected regulations.

The high appearance standards and an emphasis on a slim body indicate that rhythmic gymnasts must practice weight management in order to maintain beautiful body lines. Appearance is related to extrinsic motivation in rhythmic gymnastics in that if a

gymnasts' primary motivation is extrinsic, and they are pressured to participate in excessive weight management techniques, they are more likely to leave the sport. If, however, athletes experience less pressure, and derive the majority of their motivation intrinsically, finding more enjoyment in the sport than appearance pressure, they are more motivated to continue participation.

Conclusion

Many scholars have discussed the role of self-perceptions and body image in sports. Overall, while some studies showed that sport reinforced positive self-perceptions and body image, others revealed that some sports influenced negative self-perceptions and body image.

In particular, athletes who participate in aesthetic sports or hyper-female-sports, such as gymnastics, figure skating, or dance, experienced more body dissatisfaction than participants in other sports (Reel & Gill, 1998; Reel et al., 2005; Swami et al., 2009). Athletes in aesthetic sports also have reported higher weight concerns, and a higher risk of developing eating disorders (Reinking & Alexander, 2005; Torstveit et al., 2008).

Moreover, some studies have revealed that intrinsic motivation (e.g., enjoyment of physical activity) can increase participation in the long term while appearance orientation may decrease intrinsic motivation and promote pressure and amotivation. According to self-determination theory, motivation is enhanced through the fulfillment of the three basic psychological needs of competence, autonomy, and relatedness.

This research confirmed that fulfilling the basic psychological needs of autonomy, competence, and relatedness can foster greater motivation in sports. In particular, the

experience of success and accomplishment was the primary reason rhythmic gymnasts continue in the sport. This research demonstrated that not only were autonomy and self-confidence important, but the social support of families and coaches was also an important factor in continuing participation in rhythmic gymnasts.

Research on motivation has shown that intrinsic motivation is important for long-term exercise and sport participation (Ingledew, Markland & Medley, 1998; Ryan, Frederick, Lepes, Rubio & Sheldon, 1997; Thorgersen-Ntoumani & Ntoumanis, 2006). Throughout the interviews, many rhythmic gymnasts confirmed that athletes are continuing sports because of the enjoyment they derive from it (intrinsic motivation). On the other hand, interviews also showed that excessive flexibility training could lead to discontinuation of the sport. Therefore, this research suggested that while high intrinsic motivation (e.g., pleasure or fun from the activity) can encourage continuing motivation and adherence in sports, low intrinsic motivation (e.g., excessive training or loss of fun) can lead to quitting rhythmic gymnastics.

Some scholars have shown that the appearance/weight motive raised extrinsic motivation (Ingledew & Markland, 2008). This research also indicated that appearance and weight control for thinness can raise extrinsic motivation in rhythmic gymnastics. A thin appearance is very important in rhythmic gymnastics. Rhythmic gymnasts consistently referred to weight as the primary appearance factor in this sport. The athletes in this study stated that gymnasts must wear short and revealing uniforms, and thin appearance was therefore necessary for rhythmic gymnasts. Rhythmic gymnasts use weight management to maintain beautiful body lines. The findings suggest that

appearance is related to extrinsic motivation in rhythmic gymnastics, and extrinsic motivation can easily lead to decreased motivation in sports. The appearance motive alone is unlikely to sustain sport participation in the long term. This research therefore suggests that sports and exercise promotion programs should encourage intrinsic motivation rather than extrinsic motivation (e.g. the appearance/weight motive).

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APPENDIX A

FIELD NOTES

Observation 1 Field Notes: Ribbon Practice

Date / Time: July 18, 2016, 10:30 am

Place: Gym, S University, Seoul, South Korea

Participants: 5 athletes (Jisun – leader, Junga, Sunyun, Miran, Sunghye)

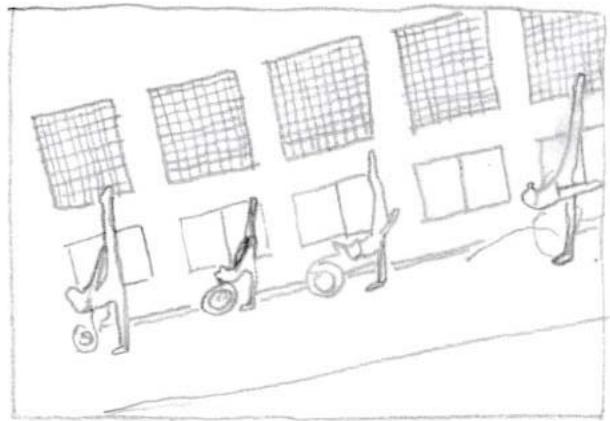
As I entered the gymnasium, the coach, Jimin was sitting on a chair while five rhythmic gymnasts were practicing on the mats. Jimin asked the gymnasts to stop practicing for a moment because she wanted to introduce me. The coach explained that I was a student studying kinesiology in the United States, and that I had come to watch them practice. She instructed the gymnasts to behave as they normally do, and to pay no attention to my presence as they worked. The coach then introduced me to one of the gymnasts in particular named Jisun, and said that this gymnast would discuss the team's schedule with me after the team was done with their exercise. The coach reiterated that I would be welcome to come and observe their practices at any time. After introducing me to Jisun, the coach left the gym and did not return for the remainder of my observation. Jisun gave me her cell phone number, and then joined the practice with the other gymnasts.

I found a place where I could clearly and discreetly observe the gymnasts practice. The athletes' bags and belongings were located in a corner of the gym next to a bench,

and I sat on that bench to observe. I pulled out my notebook and a pen and began taking notes of the athletes' training.

Figure A1

Rhythmic Gymnasts Practicing a Standing Split Ribbon Routine



Five athletes were practicing a ribbon routine (see Figure A1). As the gymnasts called out, "One, two, three, four," they practiced what appeared to be choreographed commands where a synchronized movement was very important. While holding a ribbon in their right hand, the athletes performed a standing split where they stood on one leg, while they lifted their other leg into the air at an angle of at least 180-degrees. Then, while maintaining their standing split, they spun their ribbons in a clockwise motion, and made a full 360-degree rotation on their standing leg.

They then called out "One, two, three, four, five, six, seven, eight," and practiced the same routine in repetition. This time, Jisun was not participating, but rather was watching the other four, and shouted out, "No, no! Feet, feet, feet!" All gymnasts

temporarily stopped practicing and exchanged opinions about their performance with Jisun. After sharing their thoughts, they started practicing again.

The athletes then counted together, “One, two, three, four, five, six, seven, eight.” Jisun instructed, “Your right shoulder is too far away.” Another athlete, Jung a replied, “No, No, No.” And yet another gymnast named Sunyun said, “She did not lift her left hand!” One of the five gymnasts, Jisun, who was observing during the last drill appears to be a group leader. She stopped the practice and then demonstrated the correct action to all of the gymnasts. Following this, Junga, Miran, and Sunghye practiced the action again, while Jisun and Sunyun watched.

The gymnasts gathered to discuss the skill level and appearance of each other’s performance. After debating, all five gymnasts relaxed and put their ribbons down and took a short five-minute break. Some gymnasts drank water, some went out of the gym, and others simply talked to each other about non-gymnastics related topics.

After the five-minute break, all five gymnasts returned to the mat in the gym. This time, Junga and Sunyun were practicing with ribbons, while the others were not. Jisun, the leader of the five gymnasts again observed, as all the others tried to perform their routine. Junga and Sunyun attempted to throw their ribbons while Miran, and Sunghye attempted to catch them. The gymnasts failed to complete this operation three consecutive times. They continued to attempt to complete the action, but repeatedly made mistakes and could not catch the thrown ribbon. Instead, they would pick up the dropped ribbon and continue with the following action of the routine. The group leader, Jisun,

continued to explain that this was unacceptable, and that if they were unable to both throw and catch the ribbon, that the exercise would have to stop.

After several attempts at this action, Jisun repeated, “One, two, three, four, five, six, seven, eight,” and finally the four other gymnasts were successful. The leader, Jisun congratulated and instructed the team:

Today, for the first time, four people have succeeded in both sending and receiving the ribbon! But, you were not consistent in your results. We all need to keep practicing the same behavior until we master it and can figure out what we are doing wrong.

All five gymnasts then discussed with each other to try to determine what was wrong. The gymnasts continued to practice throwing and catching the ribbons, but they continued to fail.

At this point, I noticed that another class had begun taekwondo practice on the other side of the gym, while the rhythmic gymnasts continued to practice ribbon throwing on their side of the gym. Sunghye stopped to take a drink of water, and then Miran also drank some water. Even though there was no coach present, the five athletes stayed and continued to practice. Four of them would take turns practicing the ribbon throw and catch maneuver while Jisun observed and instructed, despite numerous failures. Some gymnasts could not catch the ribbon, while others would twist the ribbon and cause a poor throw. The leader Jisun again gave the counting command, and pointed to the position of the gymnasts. She instructed, “Although we make mistakes every time we throw, we should still talk about what to do each time we make a mistake.” After this,

Sunyun left to use the restroom, and the other gymnasts took a short break. While resting, the gymnasts laughed and talked. After the short break, they continued with a slightly different practice.

This time, Junga held two ribbons. She practiced throwing the ribbons, one at a time, while Jisun explained how to do it. Then, another gymnast would throw two ribbons back at the same time. Two gymnasts would catch the thrown ribbons, and then roll forward on the mat and throw the ribbon again. Junga, Sunyun, Miran, and Sunghye repeatedly took turns at this throwing/catching/rolling activity while Jisun continued to observe and instruct.

“Let’s do it again,” instructed Jisun, “Let’s do five more exercises. You keep doing this (displayed an incorrect hand movement). No, no, no. You did not do it correctly.” The leader continued to point out incorrect movements.

After watching this, I left the gym while they were still practicing. The gymnasts did not see me leave, because I exited the gym quietly during their practice, so that I did not interfere with their efforts.

Observation 1 Reflection

This was the first day of observations. At this time, the athletes were all on summer break from their schools. They told the coach that they would be able to practice every morning in the gym from 9am until 12pm. I communicated with the coach by phone and email prior to the first observation. I also met him in-person prior to this first meeting, to explain my field note project and asked permission to observe the gymnasts throughout the summer break. During this first observation, the athletes all stared at me

when I first walked in. Then, the coach introduced me to the gymnasts, and allowed me to explain my project and the purpose of my observations to them. It seemed as though the gymnasts were already aware of my papers, research and plan to observe based upon their facial expressions and nodding as I explained. It seemed as though the coach had informed the athletes about my project before I arrived. This allowed me to obtain the athletes' consent and understanding quickly.

Then, the gymnasts went back to their places and continued practicing. After the coach introduced me, he left the gym. The five gymnasts continued to practice without the coach present. I sat down next to a bench where the gymnasts' bags and objects were placed, and began to take notes about the gymnasts' activities.

During this observation, there were five gymnasts practicing with ribbons. While three gymnasts practiced, two gymnasts watched and provided feedback. The athletes seemed to work well together, however, two of the gymnasts seemed to be older than the others, and the younger gymnasts respected them and listened to them more. If any of the gymnasts performed a wrong move, they would all stop their practice and exchange ideas about how they could improve. They appear to get along well and are dedicated to improving their activity, even if that means repeating the routine multiple times until one particular gymnast can master their movement.

Almost this entire observation was spent practicing various ribbon maneuvers. The gymnasts were taking turns throwing and catching ribbons, but kept failing. One gymnast in particular spoke up and instructed more than the other four. I later found out that this athlete was the team leader of the group. So, even if the coach was not present,

the team still had a leader to instruct and guide the team. Although the team leader talked a lot, the other four gymnasts still freely spoke their opinions, and they would all discuss mistakes and suggestions for improvement next time. The relationship between the gymnasts was respectful and kind.

Observation 2 Field Notes (Floor Mat and Leg Bar Stretching)

Date / Time: July 21, 2016, 9:15 am

Place: Gym, S University, Seoul, South Korea

Participants: 4 athletes (Jisun – leader, Sunyun, Miran, Ohjung)

When I entered the gym, I went directly to the bench in the corner to begin my observations. There was no coach present, and I did not interact with the athletes or disturb their practice when I entered. There were four athletes performing stretches on the mats when I arrived. Each of them were in an upright seated split-position, with both legs out stretched to the side so that the foot-hip-foot line was at 180-degrees. Their toes were also pointed perpendicular to their torsos, facing the opposite walls.

The athletes then stood up, and each proceeded to stretch their right leg upwards behind their body at a 90-degree angle while curving their backs. They each supported their leg by holding up their right knee with their right hand.

After completing the 90-degree leg lift stretch, the four athletes sat down on the gym mats next to the bar. They each performed their own individual stretches while talking to each other. Then, the athletes assumed the seated split position again (a 180-degree leg split with a straight back). Next, they leaned forward and placed their hands, palms down on the floor in front of them, between their legs. They slowly slid their hands

forward along the floor, away from their body and allowed their torso move closer to the ground in front of them, until their chest rested directly upon the mat. During this stretch, their toes were also extended and flexed outward, away from their body. They held this stretch for 60 seconds while talking to one another and then slowly walked their hands back towards their body until the back was in an upright position again. Finally, they released their seated split and then stood up next to the stretching bar.

Figure A2

Rhythmic Gymnasts Practicing Bar Stretches



The stretching bar was approximately 120 inches long and 40 inches high. It was supported by an angled support leg on each end. The athletes positioned themselves around the bar, two on each side, and began bar stretches (see Figure A2). They placed their chests against the bar and bent the elbow of their right hand, resting their forearm directly on the bar. Then each of them lifted their right leg, pulling it up with their left hand, until they were in a standing split position. The left hand held their leg up at a 180-degree angle, while their right forearm rested on the bar for balance. After they stretched

their right leg into the air for three minutes, they released the position and switched to mirror the same stretch on the left leg for three minutes. Throughout the stretches and between movements, the athletes were having conversations with each other.

Following the leg bar stretches, the athletes again sat down on the floor with their legs in the seated split position with their backs straight. They again leaned forward in this position until their chests and faces were touching the ground, while their legs remained at 180-degrees. At this time, the gymnasts looked comfortable. The room was silent and no one was talking. Not a sound could be heard except for the blowing of the air conditioner in the gym. After approximately 2-3 minutes in this position, the athletes released their stretches and relaxed in whatever position felt most comfortable to them.

Next, the gymnasts proceeded into a time of assisted stretching and massaging. Two gymnasts stood up next to the bar, and massaged each other's shoulders. The other two gymnasts assisted each other with stretches and then massaged. One of them laid face down on the mat, while her partner stood behind her and pulled her arm backwards behind her body to stretch it. Afterwards, the partner massaged the stretched shoulder and then the spine. These partners then switched places, so that both could be stretched and massaged. Throughout all of these assisted stretches, conversations continued between all four gymnasts. The athletes were talking and laughing, and the atmosphere in the room was positive.

The gymnasts then moved on to a time of back thigh stretching. Again they paired up, and two athletes laid on their backs with one leg stretched straight, and the other leg bent with the foot flat on the floor. The standing partners then kneeled next to the

gymnasts on the ground, and slowly lifted the bent leg upwards. The knee remained bent, but the partner pushed down on the inner thigh while they lifted the leg at the ankle. They slowly increased the pressure and depth of stretch as they pressed down. The kneeling partner then placed the foot of the laying down partner on their shoulder so that the knee bend was maintained at approximately 90-degrees, and then slowly pressed down again.

The athletes all returned to the bar to continue leg stretches. All four gymnasts stood with one hand on the bar. One of the athletes counted “One, two, three, four, five, six, seven, eight,” while they all followed the counts with forward-leg kicks. With each count they stretched out a leg and kicked. They repeat the counts and kicks with the opposite leg. They then continued by doing 16 side-kicks for each leg. It seemed like a semi-free atmosphere. When the athletes kicked their legs hard enough, a sound could be heard from within the bar, as it was jolted by the movement.

In the last stretch that I observed for the day, the gymnasts started by facing the bar and placing both hands on it. They then lifted one foot onto the bar, so that their heals rested on the bar between both hands. They leaned forward into their leg so that their ear was essentially touching their thigh. After performing this stretch with their right leg upon the bar, they then switched to the left leg.

During this exercise, I packed up my belongings and exited the gym. I did not disturb or interrupt the athletes as they continued their stretching.

Observation 2 Reflection

When I entered for this second observation, the gymnasts did not pay attention to, stare, or acknowledge me as they did during the first meeting. Four gymnasts were

stretching before their training when I walked in. It was obvious that flexibility was very important to these gymnasts and they were dedicated to becoming as limber as possible before practice officially started. Rhythmic gymnasts are required to be much more flexible than the general public, and they must work at this flexibility constantly. The athletes performed various types of splits, always maintaining their toes in a pointed position. Sometimes they stretched on the mats, sometimes they utilized the bar, and sometimes they stood next to the bar for various movements. When the athletes practiced kicking their legs into the air sideways, they were able to go high enough so that their thighs touched their ears. It was clear they understood that flexibility was very important.

However, during this observation the gymnasts seemed to have been stretching for a particularly long time. They did several different floor-stretches, all while maintaining their foot-hip-foot split line at a perfect 180-degrees. The extreme nature of the stretching and dedication and patience of the gymnasts was impressive. They took turns helping each other stretch and then massaging each other afterwards. Throughout the whole process, all gymnasts maintained a good relationship, laughing and talking with each other.

Observation 3 Field Notes (Stretching, Exercise, and Routine Practice to Music)

Date / Time: August 3, 2016, 10:00am

Place: Gym, S University, Seoul, South Korea

Participants: 4 athletes (Jisun – leader, Junga, Sunyun, Sunghye)

When I entered the gym, there were four gymnasts stretching their legs on the bar. Again, there was no coach present as they practiced. I moved quietly to the bench in the

corner of the gym without disturbing them. There were two athletes on each side of the bar. They were standing next to the bar, with one leg on the ground, and one leg outstretched straight so that their heals rested upon the bar. Their torsos were straight so that there was a vertical line created from their torso down through the standing leg. The toes of the leg on the bar were pointed towards the opposite wall, away from the body. The gymnasts would then lean their upper body into the leg that was on the bar, hugging their leg with their arms. The gymnasts would do this for a few minutes with the left leg, and then alternate and do the stretch with the right leg. During this stretching activity, the room was silent, no one was talking to each other.

Following this initial stretch, the athletes continued stretching with a more difficult maneuver. They resumed their standing positions on alternating sides of the bar, and then lifted one of the legs into the air to the standing split position. They held their right leg into the air by placing their left hand over their head, in an arched position and holding onto the bottom of their foot. While doing this, the athletes supported their stance by placing the forearm of their right hand upon the bar. At first, their torso would be straight as they held the standing split position. Then, slowly, they would bend their upper body downward, so that the split of their legs was at more than 180-degrees. All athletes performed this stretch for both their right and left legs.

The athletes then moved away from the bar. They again performed the standing 180-degree split (this time without the bar) and held onto their right foot with their left hand. Then, they alternated and performed the same stretch with the opposite leg and hand. Following this, they made the stretch and balance activity more difficult. The

athletes assumed the same standing split position, so that their legs maintained at least a 180-degree angle. Then, while standing on one leg and maintaining the split, they rotated upon the standing leg, making a 360-degree turn. They did this activity once for each leg.

Next, all four gymnasts began talking and performing different types of stretches. Sometimes, only two gymnasts would perform a particular stretch while the others watched and commented. Other times, only one person would perform a particular stretch, while the other three would do a different maneuver. The individualized stretches appeared to be assigned to them as a specific part of their program.

Following the series of individual stretches, the athletes moved the bar to the side of the gym, out of the way, and everyone rested and took a short five-minute break. Everyone left the gym and came back at different times, drinking water and talking as they returned. There was a desk in one corner of the gym with an audio CD gymnast and two speakers on it. The gymnasts unraveled an extension cord, plugged in the CD gymnast and started the music. At first, they appeared to be exercising to the beat of the music, but without following a specific routine. One of the gymnasts counted out the beats, “One, two, three, one, two, one, two, one, two, three, one, two, one, two,” as the music played in the background.

The group leader stopped the music. “J.E.! Even when you throw, your arms do not spread. They do not even follow the beat. What are you doing?” The leader explained to the gymnast which actions were incorrect while counting, “One, two, one, two, three, four.” After two of the athletes completed a short practice, then another two athletes practiced the same actions. The leader again instructed, “J.E! Try the first movement

again, do not even proceed to the second motion. This is the first time all three gymnasts have play!"

Following this, three gymnasts practiced the same movement sat the same time, while the leader counted, "One, two, three, four, five, six, seven, eight." The leader watched the other three, and noticed that Athlete A (who was in the middle) was slightly out of sync with the others. Her motions did not perfectly mirror the other two. The leader stopped the music and shouted, "M.S! This is not the same! You need to throw your upper body a bit more. Your body is not straight enough." The gymnasts' actions were not harmonious (they each had a different beat), and so the leader's voice got louder as she shouted at them to be more in sync.

The leader then explained again to one gymnast with a raised voice, "J.E! This part is strange. You are doing this during the music. Can't you tell that it isn't right? The move looks very strange. I'll do it with you [the leader then showed the action] until the end of the movement." Athlete A then did the movement wrong again. Shouting now, the leader said, "No! One, two, three, four. What are you doing? No! Do it again." The leader continued to insist that the motion needed to be corrected. Then, the gymnast went to another side of the gym at the leader's instruction to practice "double skipping rope" exercises. This appeared to be a punishment for making the same mistake too many times.

While the leader was focusing on Athlete A's inaccuracies, the other two gymnasts continued to practice their movements on their own. Then, they stopped at the same time and one instructed the other, "You have to be fast! Go ahead! Come and go!" These two

gymnasts appeared to be strong and in good physical shape. They were breathing well even after their exercise.

After the music stopped, the leader gathered the other three gymnasts together and taught the action again. Finally, all four gymnasts discussed what they did well, and what they needed to improve. The leader usually spoke first while the other three gymnasts listened. The leader then changed the CD, and then another music practice began.

At this point, I quietly exited the gym so as not to disturb their practice. I did not interact with any of the gymnasts, but sat, taking notes as a silent observer until my exit.

Observation 3 Reflection

In Observation 3, I was able to watch the athletes practice to music for the first time. Before beginning the music practice, however, they performed a series of flexibility stretches, many similar to those done in my previous observations, with slight modifications. While flexibility is important for all athletes, for rhythmic gymnasts it is an absolutely essential part of the sport. Athletes cannot succeed in rhythmic gymnastics, and may get injured, unless they are incredibly flexible. The athletes practiced various maneuvers such as standing splits and leg kicks. They stretched on the mat and on the bar in increasing levels of difficulty. Their stretches would always start out simple, and gradually increase in difficulty. In this observation, they also performed a movement requiring great balance and skill. While holding a 180-degree standing split position, supporting their foot with their hand, they then proceeded to rotate on the standing foot in a full 360-degree circle.

When the athletes had finished thoroughly stretching, they took a break and began practicing to music. Rhythmic gymnasts perform simultaneously with music and various apparatus tools. However, after stretching, the athletes practiced their motions to the music without use of any tools at first. It was very important for them to be able to synchronize their body movements to each other and the rhythm of the music at the same time. Preparing for a successful performance involves practicing individual parts in stages and building in difficulty as each stage is mastered. First, there is stretching, then synchronized movement without music, then with the music, and finally with both music and apparatus. During this observation, it seemed very important that all five gymnasts were able to perfectly synchronize their movements to the music.

When one athlete's performance was different from the other gymnasts, whoever noticed the difference would yell it out and point at them for being different. The team leader would stop the music, explain and demonstrate the skill again, and make them practice repeatedly. If the gymnast continued to make the same mistake, she was sent away from the group to do a "double skipping rope," which seemed to be a type of punishment for making too many mistakes.

Observation 4 Field Notes (Intensive Split Exercises and Extreme Stretching)

Date / Time: August 8, 2016, 10:00am

Place: Gym, S University, Seoul, South Korea

Participants: 6 athletes (Jisun – leader, Junga, Sunyun, Miran, Sunghye, Ohjung)

During this observation, I quietly entered the gym and sat on the bench to observe while six athletes were performing stretches on the mat. There was no coach present for

the exercises. The athletes stood on one leg and performed a standing split stretch as described in previous observations. They held the standing split position for three minutes per leg.

Next, the athletes assumed the standing split position and then counted, “One, two, three, four, five, six, seven, eight. One, two, three, four, five, six, seven, eight.” At the end of the second 8-count, the athletes kicked their feet back into position. When one leg cycle ended, they changed to their other leg, and repeated the practice.

The athletes then sat on the floor with their legs straight in front of them. They slowly opened their legs while simultaneously moving their torso forward until their legs were at 180-degrees, and their stomachs’ rested on the mat. They stretched their arms out in front of them. After holding this position for three minutes, the athletes then returned their upper bodies to an upright position. Next, maintaining their split, the athletes then leaned their upper bodies towards one side, hugging their outstretched leg. After maintaining that position for three minutes, they then switched to the opposite side.

After stretching, the gymnasts stood in a line and secured their hair in their ponytails. Then, they all stood on their toes and jumped diagonally across the mat. Once on the other side of the mat, they stretched their hands above their heads and ran back across the mat diagonally. Before reaching the edge, in mid-run, they jumped into the air as high as possible, while holding their knees as close to their chests as possible. This was referred to as a tuck jump. After landing, they continued to run and then performed a jump split, where they jumped into the air mid-run and opened their legs up to a 180-degree split with their hands above their head before landing with feet together on the

mat. After this series of activities, the gymnasts were visibly out of breath, and I could hear their exerted breathing.

Figure A3

Rhythmic Gymnasts Practicing Mat (or chair) Stretches



After these warm-up exercises, the gymnasts set up a small mat. They positioned themselves into a split where instead of the legs being off to the sides, one leg was stretched in front of them, and one leg behind, while they maintained straight backs and knees. After doing this without props, they then used chairs and cushions to further prop up their feet (in front and back) and extend the split while they held their balance with their hands on the floor (see Figure A3). This stretch was held for one minute, and then they relaxed and switched sides. They repeated the stretch three times per leg. As time passed, the gymnasts appeared to be in pain, even though it was clear that this was not the first time they had done this activity. Even though the gymnasts were obviously in pain based on sounds and facial expressions, not a single gymnast stopped the activity before the time was up. When the stretch was over, they all stood up, shook out or massaged their legs, and repeatedly jumped in place. After this activity, the athletes took a break.

Some went to the restroom, others wiped down their sweat with a towel or drank water.

Even though they were still breathing hard, the gymnasts laughed and held conversations with each other.

During the break, I ended my observation and exited the gym as well, without talking to any of the gymnasts or disturbing their practice.

Observation 4 Reflection

This was my fourth observation and I was becoming very familiar with the process of note-taking, and the athletes paid no attention to me at all as I entered and exited the gym. Throughout this observation, I could again see how important the development of flexibility was for these gymnasts. Their activities showed that they had far more flexibility than the average person, and that they had been working on such flexibility for a long time. The day's flexibility training involved cardio and splits. They performed intense cardio activities on the mat while kicking, running and performing jump splits. After the cardio activity, gymnasts were visibly out of breath, and then sat down on the mats to stretch some more. This time, instead of side splits, their legs were split so that one was in front of the body and one was behind. They held this pose with their legs in a straight line with perfectly straight backs, supporting their bodies by resting their hands on the mat. They held this position one minute and then released, repeating the exercise three times per leg. Some of the athletes utilized chairs or cushions to lift their legs further and provide an even more difficult, deeper stretch. All of the athletes looked like they were in visible pain during and after the exercise. It was obvious that this was not their first time to perform these activities, yet it was still painful. However

difficult the extreme flexibility practice was, though, not a single gymnast gave up before the time was over. They all endured through the end of the stretching time. After they recovered from the activity and took a break, they shook out their legs, massaged each other and continued to laugh and hold conversations again.

Field Notes for Observation 5: Using Tools and Self-Instruction

Time: August 10, 2016, 11:00am

Place: Gym, S University, Seoul, South Korea

Participants: 6 athletes (Jisun – leader, Junga, Sunyun, Miran, Sunghye, Ohjung)

When I entered the gym, all six gymnasts on the team were present, having a conversation with the coach, Jimin. Jimin was sitting at the desk, and the six gymnasts were standing around her, listening. I could not hear what they were discussing, but they met for about ten minutes before beginning practice.

Each of the six gymnasts then picked up an apparatus tool. Junga and Sunyun were holding balls, and the other four gymnasts (Jisun, Miran, Sunghye, and Ohjung) were all holding hoops. As Ohjung picked up the hoop she said, “I’ll do this one.” In observation, it seemed as though the tools they would use had not been decided yet, nor did they know what activity they would perform with that tool.

Junga and Sunyun practiced with the balls freely, doing their own activities. Junga fixed the ball behind her neck and spun around while Sunyun dribbled with her threw it towards Junga. “You should do something harder than that. I can do that too,” said Sunyun. “Ok, why don’t we try something easier, and then run with the ball?” replied Junga. The atmosphere at this point was free and unstructured. The gymnasts were

deciding themselves how to practice with their tools. They took turns discussing, instructing, teaching and practicing with each other.

In another part of the gym, the other four gymnasts were practicing with hula hoops. Jisun, the leader shouted, “I can throw three hoola hoops with both hands!” Miran said, “I can throw Sunghye three hula hoops to catch.” Sunghye received them, and then threw a hula hoop. Athletes Miran, Sunghye, and Ohjung were running and rolling through the hoops. The coach, Jimin, then interrupted and instructed, “Think about what you can each do with the hoola hoop, and then practice by yourself.” After this, Jimin left the gym and did not return for the remainder of the session.

After Jimin left, the gymnasts started talking to each other with Jisun, the leader, doing most of the talking. Jimin asked each of them “What performance can you do?” All gymnasts discussed various activities they could do together. Then Jimin looked for a video on her cell phone to learn how to use her tool. Soon afterwards, all six gymnasts laid down their apparatus to watch videos about various gymnastics tools on their cell phones. For thirty minutes, the athletes searched for videos on their phones, watched them and took notes. Sometimes they were lying down on the gym floor, and at other times, they were sitting up. Throughout the activity, they were exchanging opinions and ideas and analyzing the videos that they watched.

Observation 5 Reflection

The coach was present again when I arrived for my fifth observation at the gym. They were having a meeting when I first came in, and the coach briefly watched them exercise with various apparatus. It seemed as though the gymnasts were not familiar with

the hoops, balls and clubs they were instructed to practice with. After briefly observing some of the hula-hoop gymnasts playing with each other in a somewhat haphazard manner, the coach instructed all six gymnasts again. He told them to think about what they could do with their tools by themselves and then practice it independently. After this instruction, the coach again left the gym and did not return. The gymnasts were left alone to independently research and learn how to use the various apparatus they had chosen, and to practice a skilled maneuver that they were capable of doing. I do not know how other coaches train their gymnasts, but it appears as though the coach of S University allows the gymnasts to create routines and train themselves to a large degree.

When the coach left, the gymnasts did not seem to know what apparatus to choose, or how to use it. They needed to decide on a tool, create a routine and learn how to perform it. The gymnasts tried several different things amongst themselves, taking turns showing ideas and then trying to replicate each other. After an amount of time had passed with little success, all six athletes decided to watch rhythmic gymnastics videos on their cell phones. As they watched the videos, sitting down or laying relaxed on the mats, they freely discussed their ideas and expressed their opinions about how to move forward. This showed that despite specific guidance from the coach, the gymnasts were still able to work well together, stay on task and to some degree, teach themselves maneuvers.

Observation 6 Field Notes (Synchronization with Hoops and Clubs)

Time: August 17, 2016, 11:00am

Place: Gym, S University, Seoul, South Korea

Participants: 6 athletes (Jisun – leader, Junga, Sunyun, Miran, Sunghye, Ohjung)

When I entered the gym, there was very loud music playing. I discreetly sat down on the bench to begin my observation. There was no coach present at that time. There were two gymnasts practicing with a hula hoop. One gymnast took a video of the other gymnast's actions while he counted, "One, two, three, four, five, six." Then, both gymnasts held a hoop with one hand and started performing a routine with their hoop. They were trying to synchronize their movements perfectly and counted "One, two, three, four, five, six," as they practiced. They repeated the exercise, practice and count multiple times until they matched perfectly. Then they relaxed and practiced freely with their hoops.

While two of the gymnasts were practicing with their hoops on one side, on the other side of the gym, there were two other gymnasts stretching with clubs. These gymnastic clubs are similar to juggling clubs, except they are often thinner, somewhat flexible, and weighted with one end being fatter than the other end. One of the gymnasts helped another gymnast stretch, and then they continued to do various exercises where they spun, threw and caught the clubs.

The sound of the music and the running air conditioner filled the gym. All six gymnasts gathered together with their equipment. Three of the gymnasts were holding clubs, and three of the gymnasts were holding hoola hoops. All six of them practiced together while the music played. The rhythm of the music, and the beating of the hula hoops and clubs were in alignment. Gymnasts took turns throwing and catching their clubs and hoops. This exercise was practiced repeatedly until they were very familiar with the moves.

The hoops and clubs needed to be thrown and caught at the same time. Each of the six athletes took turns with both devices so that they could all get practice with both tools. They kept swapping, but it was not easy for them, and they kept failing to complete the routine. When they failed, they would stop, discuss the error with each other and then try again. They would increase the distance of the throws as well, and as needed, the leader would step out and give individualized instruction and feedback.

The three hula hoop gymnasts tried to maintain a throw with the same angle of rotation and time. The three club gymnasts tried to maintain throws that synchronized the same number of turns and angle. One of the club gymnasts kept throwing to a wrong beat. When this would happen, the leader would call out, “12 o’clock!” If any gymnast continued to make the same mistake (with the beat or the gestures), they would have to leave the mat to practice a “double jump rope” activity as punishment.

A similar procedure was being followed by the hula hoop practitioners. If an individual gymnast kept failing at their part, they had to practice a separate independent action as punishment. The gymnasts would count, “One, two, three, four” and repeated the same actions for about twenty minutes. They would practice by dividing their movements according to the beats, feet and hand motions. Their strategies were not working, however, and the leader kept shouting, “Arms, angles, everything needs to be the same! Stretch your arms and hands at 12 o’clock!”

As time passed, the speed of the music was increased, and the actions became faster and more complicated. The leader was very detail oriented about the gymnasts’

movements, and kept yelling comments at the other gymnasts such as, “You fool! You are not at 12 o’clock! You did not do it right!”

Finally, all six gymnasts (those using both hoops and clubs) gathered back together to practice, and they were able to match each other. The three gymnasts practiced throwing and catching their clubs according to the beat of the music while another gymnast recorded it on her cell phone. Then, the three hula hoop gymnasts did the same thing while one of the club gymnasts recorded it on their phone. Their initial success at matching was short-lived, however, and after multiple rounds, and analyzing the cell phone videos, they discussed and decided that they still needed more practice.

Observation 6 Reflection

Throughout this sixth observation, the emphasis of the activities appeared to be on synchronizing elaborate movements of the routine while utilizing the hoops and club apparatus. The gymnasts repeated a complex series of movements over and over again while counting their beats in accordance to the rhythm of the music. The action of five of the gymnasts was the same, but one particular gymnast had difficulty replicating the moves. At first, the gymnasts divided into pairs to practice, then all six divided into two groups of three to practice. The manner in which the hoops and clubs were thrown had to be the exact height, angle, rotation and speed every time. This was not an easy task. They practiced multiple times, took turns with both apparatus, throwing and catching, switched partners, observed and even recorded the movements with their cell phones to evaluate their progress afterwards. The gymnasts all failed at this activity so many times throughout the observation, but they would simply discuss, evaluate and try the routine

again. They would meet success once and then fail multiple times afterwards. Despite the continued failure, the gymnasts continued to work reasonably well together. They were committed to improving and doing the best they could during the practice.

Observation 7 Field Notes (Rope Exercises and Independent Stretching Activity)

Time: August 24, 2016, 11:30am

Place: Gym, S University, Seoul, South Korea

Participants: 6 athletes (Jisun – leader, Junga, Sunyun, Miran, Sunghye, Ohjung)

Upon entering the gym for my observation, there were six gymnasts who had divided themselves into two groups of three. There was no coach present during this final observation. The gymnasts appeared to be doing a type of training using a jump rope in order to improve their arm muscles. Ropes had been used in previous observations as punishment for repeated mistakes, but were now being used as training to build arm muscle strength. Ropes are used both in training and in performance by rhythmic gymnasts.

Jisun, Sunyun and Sunghye were jumping first, and when they finished, they then gave the ropes to Junga, Miran, and Ohjung. During this time, they were practicing synchronized skipping as well, so that the angle of their arms were matching each other. Jisun called out “Stretch out your arms! Are we individuals or a team?” After each gymnast had completed five repetitions, they finished the exercise.

Next, each of the six gymnasts brought over a hula hoop. Miran placed the hula hoop over her neck and held it there. Then she moved her shoulders to the right and the left while keeping the hoop in position and not dropping it. Jisun, Ohjung, and Sunghye

tried this activity as well. Then, all six gymnasts discussed what exercise they should undertake next. It seemed as though the hula hoop activity was not complete, but each gymnast continued to try something independently, some succeeding and some failing at their activity.

At this point, everyone left the gym. The gymnasts returned after a few minutes carrying water bottles and then moved two portable bars onto the center of the mat. All six gymnasts arranged themselves around the bars and began performing stretches. The gymnasts placed their heals on the bars and bent into their knees with their torsos to stretch. Jisun put one of her legs on the bar, and one of her legs on a chair to stretch them. The gymnasts stretched for three minutes and then they switched to the opposite leg.

There was a small towel on one of the bars and Miran placed her ankle on it as she stretched. All the athletes began individual stretches and activities at this time. Junga was stretching with her shoulders on the ground. Sunyun and Miran were watching something on their cell phones while they talked. Sunghye was stretching her arms in various positions, and Ohjung was stretching her shoulders and stomach while lying on the mat. All their stretches were done freely in different ways. At this point, a taekwondo team entered and began practicing on the other side of the gym. Junga found a video on her smart phone that was funny and all the other gymnasts watched it with her while they continued to stretch on the bar. Finally, the six gymnasts divided into pairs, and spent about 10 minutes massaging each other's shoulders.

At the end of this final observation, I again quietly exited the gym without disturbing or interacting with the athletes. I followed up with the coach at a later date by phone and email to thank him for providing the opportunity to observe his gymnasts.

Observation 7 Reflection

During my seventh and final observation, the gymnasts spent a good deal of time practicing at “double skipping rope” and performing individualized stretches. The rope activities appeared to be designed at training and building their arm muscles. Both flexibility and strength is important in rhythmic gymnastics, and the rope skipping was about building strength and endurance. Upper body strength is especially important for the gymnasts to be able to throw their apparatus (such as ball, ribbon, clubs or hoops) higher into the air. After the rope activity, the six gymnasts present practiced with the hoops again and discussed what they needed to do differently in order to succeed at this routine. Following the hoop practice, they took a brief break and returned to do more stretches.

Simply looking at the activity from today’s observation, you can see multiple aspects of rhythmic gymnastics that are essential: strength and endurance (ropes training), synchronization (hoops activity), flexibility (stretching), persistence (repeated attempts at a similar task), and teamwork, as evidenced by their dedication to work together and make sure that every team member was performing well.