

Understanding college females' intrinsic motives for physical activity: A qualitative comparison between athletes and non-athletes

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Abstract

The purpose of the current research was to use a qualitative-methodological approach to understand attraction to physical activity in a sample of collegiate females. Attraction to physical activity, or motivation, can be grounded in the self-determination theory (SDT). Based on these results, the secondary purpose was to examine the similarities and differences between collegiate female athletes and non-athletes regarding attraction to physical activity. Participants included eight female athletes and eight female non-athletes. The interviews revealed two overarching themes: attraction and aversion to physical activity, each with subthemes. Understanding motives to engage in physical activity can help program planners create tailored interventions to improve overall exercise adherence. Clinical and collegiate relevance and limitations are discussed as are future research and program implementation suggestions.

KEYWORDS: Physical activity, intrinsic motivation, women, athlete, non-athlete

As cited by the Center for Disease Control (2013), regular physical activity has been shown to result in a multitude of health benefits for both men and women, including a decreased risk of cardiovascular disease, colon cancer, and obesity, as well as improvement in mood and well-being. Despite these findings, only 22% of adults regularly engage in sustained physical activity during leisure time, with males participating more than females (US Department of Health and Human Services, 1996). Ogden et al. (2012) indicate the rising rates of obesity, with over one-third of men and women aged twenty and over obese.

Regarding physical activity in women, Woitas-Ślubowska (2007) found that long-term involvement in competitive sports positively influences women's long-term physical activity decisions. This could be due to the tendency of women in sports to view physical activity as intrinsically rewarding and therefore enjoyable (Goncalves, Carvalho, & Light, 2011; Kilpatrick et al., 2005). However, there are gaps in research examining the relationship between female sport participation and attraction to physical activity, especially within the collegiate female population. Previous studies on the motives of collegiate females' participation in physical activity have generally used questionnaires or surveys rather than the rich, descriptive data from qualitative-methodological or even mixed-methodological approaches (Henry et al., 2011; Pacheco et al., 2012). Furthermore, these studies have typically grouped participants by fixed lifestyle factors such as sex or age instead of changeable lifestyle factors like sports participation. Studies that have taken athletic affiliation into account have preferred to compare the motives of female athletes to the motives of their male counterparts rather than to their female, non-athlete counterparts (Cremades et al., 2012; LaChausse, 2006; Monzami et al., 2012). It is important to understand the motives of female athletes and non-athletes so that physical activity and sport training programs can be tailored to the needs and desires of the individuals.

The self-determination theory (SDT) is a multidimensional theory that focuses on intrinsic and extrinsic motivation and the role each play in determining behavior, such as physical activity (Deci & Ryan, 1985). This theory suggests that individuals, including athletes, will be intrinsically motivated to engage in an activity, and therefore more likely to adhere in the activity, when three basic human needs are fulfilled: competence, autonomy, and relatedness (Deci & Ryan, 1985; Vlachopoulos & Michailidou, 2006). Competence refers to an individual's desire to interact effectively with their environment. Autonomy is the feeling of choice or control regarding activity, like exercise. Relatedness is an individual's feeling of connectedness to others while engaging in a certain activity (Ryan & Deci, 2000). Therefore, understanding conditions that facilitate versus impede the fulfillment of these three factors in physical activity may prove efficacious in understanding physical activity and adherence. Increasing physical activity levels of non-athletes and athletes following the end of their collegiate careers is crucial in creating a lasting lifestyle centered around physical activity and healthy living (Cousins, 1998).

Understanding the various intrinsic and extrinsic motives of women for participating in physical activity may play an important role in developing and increasing adherence to exercise programs, and decreasing the likelihood of a multitude of negative health consequences resulting from inactivity. As indicated by Mathes & Battista (1985), because athletes may not be motivated by the same factors as non-athletes, it is important to understand the different reasons for participation in physical activity.

The purpose of the current research was to use a qualitative-methodological approach to examine attraction to physical activity of a sample of collegiate females via individual interviews. Based on these results, the secondary purpose was to compare the physical activity motives of female athletes and non-athletes within the collegiate sample.

Methods

Participants

Participants included eight female participants enrolled as full-time students currently participating in at least one sport, including NCAA Division I university, club, recreational, and intramural sports, and eight female participants with no current athletic affiliation. The number of participants was decided based on time constraints, convenience, and saturation, which is the point at which information from one more participant adds no new meaning (Marshall, 1996). All participants were full-time students at a southeastern university and at least 18 years of age.

Procedure

Following institutional review board approval, the investigator contacted multiple female athletes and non-athletes via email and in person with the intent of explaining the purpose of the study in detail. All prospective participants received informed consent forms and a demographic survey. Participants were informed that their participation was completely voluntary, that they could withdraw from the study at any point, and that all personal information would be kept strictly confidential. The demographic survey helped to determine whether participants met inclusion criteria as collegiate athletes or non-athletes.

After consent was received from each participant and the demographic survey had been completed, individual interviews were conducted with the participants at times mutually agreed upon by the investigator and participants. Interviews consisted of open-ended questions derived from the Children's Attraction to Physical Activity (CAPA; Brustad, 1993) assessment, the most reliable and convenient assessment that has been used in previous, related research (Biber et al., 2013). Each participant sat in a quiet classroom and was reminded that participation in the study was completely voluntary. Participants were told that they did not have to answer a question if they didn't want and could leave the classroom if they felt uncomfortable. The participants were asked to respond to each open-ended question as honestly and openly as possible and were given the opportunity to speak until they had fully responded to each question or statement. For

the semi-structured individual interviews, eight open-ended, unbiased, non-threatening statements or questions were asked of each participant. Each interview was recorded with an iPhone using Phillips Dictation Recorder for later transcription. After completing the interview, each participant was allowed to ask questions and be further debriefed. Each interview lasted for approximately ten minutes.

Data Analysis

All interviews were processed according to a four-step method outlined by Czech et al. (2004) and Patton (2002). First, transcription allowed for repetitive reading of the interviews in order to obtain a full understanding of what was said. The text was then cleared, which involved analyzing the data in direct relation to the question at hand. During phenomenological reduction, all irrelevant, repetitive, or overlapping information was removed. This helped enhance readability and understanding. The transcripts were then verified by the research team to ensure the intended meanings were maintained. The data was placed into meaningful categories and different themes were identified based on repeated analysis of the categories and their meanings (Patton, 2002). Each theme was created to accurately and concisely convey the data collected in a meaningful fashion. It was necessary to use a balance of direct quotations and interpretation of the interviews to provide concise and accurate meaning (Patton, 2002).

Reliability and Validity

In qualitative research, data is considered reliable if it provides an honest interpretation and can be trusted as conveying the participant's intentions. With existential phenomenological research, the participant is viewed as an expert in the given topic of study and therefore viewed as trustworthy (Patton, 2002). If the information obtained is an accurate description of what actually happened according to the participant, then it can be considered reliable. Validity was ensured through the reduction of researcher bias via triangulation. Triangulation methods included a bracketing interview, member checking, and expert checking. An interview was conducted in which the open-ended questions were asked for the primary researcher and the responses thematized. The researcher's bias of intrinsic and extrinsic motivation and aversion to engage in were identified. The researcher's bias was identified and preconceived thoughts and beliefs regarding the topic at hand were attempted to be withheld (Czech et al., 2004). Expert checking helped minimize primary researcher bias in conjunction with the bracketing interview.

Results

The transcripts were first thematized without the lens of athlete or non-athlete. More than half, or nine out of sixteen of the participants had to have mentioned a topic for thematization. Next, athlete and non-athlete themes were distinguished. More than half, or five out of eight, of the athletes had to have mentioned a topic for thematization,

and the same standard applied to non-athletes. Based on the transcriptions, all of the responses were thematized into attraction and aversion to physical activity. These two categories each contained subthemes.

Figure 1

	Athletes	Nonathletes
Attraction	<ul style="list-style-type: none"> • Being Active • Body Image/Self Worth • Social Interaction and Support • Feeling Healthy/Good • Advancement/Accomplishment • Enjoyment 	<ul style="list-style-type: none"> • Being Active • Body Image/Self Worth • Social Interaction/Support • Feeling Healthy/Good • Advancement/Accomplishment
Aversion	<ul style="list-style-type: none"> • Incompetence • Pain or Injury 	<ul style="list-style-type: none"> • Incompetence

Comparison of the physical activity themes between collegiate female athletes and non-athletes.

Attraction to Physical Activity

Every participant mentioned aspects that attracted them to physical activity. Six main themes emerged regarding attraction to physical activity: 1) Being Active 2) Feeling Healthy/Good, 3) Body Image/Self Worth, 4) Social Interaction and Support, 5) Advancement/Accomplishment, and 6) Enjoyment. Each attraction theme arose for both athletes and non-athletes aside from enjoyment, which was only evident in the athletes' sample.

Theme 1) Being Active

The most common theme to emerge regarding attraction to physical activity was being active. This theme emerged mainly in response to, "When you think about physical activity, what comes to mind?" Responses included moving, exerting energy, sweating, and working out.

"What comes to mind is just being able to move and be active and just being healthy, I guess, and being toned," (Non-athlete). A similar mentality was expressed by athletes as well. "Anything you do when you get up out of bed in the morning. Literally, like walking, running, jogging. Almost everything is an exercise when you think about it," (Athlete).

Theme 2) Body Image/Self Worth

When asked how physical activity influences how participants feel about their appearance, they repeatedly mentioned feeling better about themselves after physical activity as well as improvements in their body image and/or general self-concept. “When I don’t work out, I feel really fat and ugly, to be real honest, but when I do work out, it makes me feel better about my body image, even if it hasn’t really changed,” (Athlete). Similar sentiments were expressed by non-athletes. “Body Image. It’s pretty shallow, but you want to look your best. I’m not trying to show off to people, I’m trying to look my best for myself, which I think is a really big deal,” (Non-athlete).

Theme 3) Social Interaction and Support

The third most common theme to emerge regarding attraction to physical activity involved social interaction with peers, teammates, and friends, and social support from family and friends. These themes emerged mainly in response to the question, “How do your friends and family influence your choice of physical activities?” Friends, family, isolation, and peer approval were all reasons cited for physical activity engagement.

Well, I mean, my friends have always been active, just growing up, and all of the teams I’ve been on. So, you know, even if they stopped playing a sport, and I stayed in touch with them. I guess the way all my friends were, you know, your roommate’s active even when they’re not participating in a sport, so it’s just one of those things where if you’re hanging out with people who are active. And also I guess my family is. My parents always encouraged me to be in sports, be active. They’ve always been active, so it’s just kind of like being around it has rubbed off on me and without even thinking about it now it’s just a part of who I am (Athlete).

This non-athlete expressed not wanting to be alone as a reason for exercising. “That’s the hardest thing I think for college students is that they don’t want to do anything by themselves,” (Non-athlete).

Theme 4) Feeling Healthy/Good

When asked what motivates them to exercise as well as when responding to the majority of the remaining questions, participants mentioned feeling healthy as an attractor to physical activity. Even if health was not directly stated as a motivator, a general recognition of the possible positive effects on one’s body or mind were mentioned. This can be seen in quotes by athletes and non-athletes. “Well, one, it’s a stress reliever, and it’s a break from school, and it takes my mind off things, plus it keeps me in shape...” (Athlete). “I guess just being healthy in general... It’s not really as much about what I look like but how I feel,” (Non-athlete).

Theme 5) Advancement/Accomplishment

When asked how they felt when trying a novel physical activity, the participants generally responded with eagerness to learn something new. "... But afterwards you feel good because you learned a new thing, and it just makes you feel awesome," (Non-athlete). "Whenever I try a new physical activity, initially I feel... I anticipate it, I look forward to it, I'm excited to try something new, and I wonder if I'm going to be able to surprise myself and find out that I'm actually good at it or actually really enjoy it," (Female Athlete). Regarding motivation to exercise, accomplishment appealed to some participants. Competition was generally mentioned in regards to competing with one's self rather than with others. "Something that motivates me to exercise is having a long term goal to work for, so like a big running race for me, so that I can complete it. I did a marathon this year, and that really got me up to making sure I didn't slack," (Athlete). This was also seen in non-athletes. "I also think it's cool to be able to compete with yourself, especially with weight lifting, to see how much you can improve, and realizing that you're lifting more than you were a month ago, and just knowing that you have that competition just with yourself," (Non-athlete).

Theme 6) Enjoyment (Athletes Only)

The last theme to arise was exclusively notable within the collegiate female athlete sample and related to genuinely taking pleasure in exercise itself. "For me, my most enjoyed physical activity is running, and that's because I get a runner's high from it. I enjoy the actual activity of it. I enjoy the burn, and I enjoy the benefits that come from it." Athletes expressed enjoyed the physical and mental components of their sport. "The thing that motivates me the most is knowing that it's what I love to do. I love the feeling you get, the high, the power, and just how it makes me feel."

Aversion to Physical Activity

Although the purpose of the study was to gain a deeper understanding as to what attracts collegiate female athletes and non-athletes to participate in physical activity, the interviews also provided insight as to why this sample may be averse to physical activity. All but two participants mentioned incompetence as a source of aversion to physical activity. One additional theme arose in the athletes' sample, which was pain or injury.

Theme 1) Incompetence

When asked to describe their least favorite physical activity experience, what they thought of when they considered barriers to exercise, or feelings when trying a new physical activity, almost all of the participants expressed fear of either failing at the activity or lacking the skills, qualities, or ability to do the activity properly as a detriment to exercise.

My least enjoyed physical activity is hard to say... probably swimming because I'm not good at it. That's another reason that I like running, is because I'm good

at it and I excel at it. So, swimming, I find it very hard to breathe, and it freaks me out. I'm not good at it. It's something that I've never been trained at, and I would like to be better at it, so I might end up doing it, but I really don't like it," (Athlete).

In addition, having others witness their incompetence and consequently feeling embarrassed was another barrier to exercise. "I guess just being embarrassed and not knowing what you're doing. You're just gonna try to play a sport that you don't know how to do, just kind of trying it, and then people judging you or not knowing that you're like, "Oh, they don't know how to do it, so they shouldn't be doing it," (Non-athlete).

Theme 2) Pain or Injury (Athletes Only)

When asked to describe least favorite physical activity experiences or barriers to exercise, athletes continually mentioned past injuries, current injuries, and the potential to become injured, as well as an aversion to pain or soreness. "I've been sitting out because I have back spasms a lot. I've been having problems with that, so that's the least fun... Pain. It's a very hard barrier, pain, and when to know to stop, and when is it just soreness or is this something that's serious?" Physical injury or pain was expressed multiple times by athletes. "I think about things that will keep you from exercising, so whether that be physically like you're injured, you cannot exercise, or you're sick, or you don't feel like exercising because of some physical thing."

Discussion

The results revealed six major themes indicating collegiate women's attraction to physical activity: 1) Being Active 2) Feeling Healthy/Good, 3) Body Image/Self Worth, 4) Social Interaction and Support, 5) Advancement/Accomplishment, and within the athletes sample only, 6) Enjoyment. The results also revealed themes that made physical activity aversive: 1) Incompetence, and within the athletes sample only, 2) Pain/Injury.

Attraction to Physical Activity

Theme 1) Being Active

Participants felt attracted to physical activity because they could feel their body moving and that they were being healthy by exercising. These women also showed a tendency to associate physical activity with running and, surprisingly, lifting weights. Research has shown that significant loading, like that which occurs when weight training or walking, can positively influence bone mineral density in girls (Nasim, 2010). Additionally, Depcik & Williams (2004) found that weight training may be an effective treatment for body image disturbance, as participants who regularly lifted weights saw improvements in body image. With this in mind, it can be understood why some women may be attracted to weight training and running as sports or leisure-time activities.

However, this study contributes to the minimal research has been done on this subject of female attraction to particular types of physical activity.

Theme 2) Body Image/Self Worth

Previous research supports the positive relationship between body image and female motivation to exercise (Depcik & Williams, 2004; LaChausse, 2006; Egli et al., 2011). This study found improvements in self-concept after exercise to be a strong reason for participating in physical activity. Participants frequently mentioned feeling better about themselves, physically and in general, after exercising. As a female non-athlete put it, "Body Image. It's pretty shallow, but you want to look your best. I'm not trying to show off to people, I'm trying to look my best for myself, which I think is a really big deal." Athlete and non-athlete participants associated physical inactivity with feeling fat, ugly, and bad about themselves, as they similarly associated exercising with feeling healthy, feeling good, and feeling good about themselves. Aside from obvious changes in physical appearance such as fat loss and muscle mass gain due to exercise, Fox and Corbin (1989) suggest that physical activity alone, without the influence of bodily changes, impacts our physical self-perceptions, such as perceived physical strength and conditioning. This, in turn, impacts our physical self-worth and global self-esteem. Females' attraction to physical activity due to improvements in body image and/or self-worth may be a necessary component to increase physical activity and adherence.

Theme 3) Social Interaction and Support

Participants were attracted to physical activity in which they were with friends who encouraged and supported them. Athletes and non-athletes not only derived enjoyment out of activities in which they were with their friends but were more likely to partake in certain activities if their friends were with them. One female non-athlete explained, "That's the hardest thing I think for college students is that they don't want to do anything by themselves." This suggested need for has been supported by previous research as well. In a study by VanKim and Nelson (2013), low socializing was associated with higher odds of poor mental health in college students. In addition, Smith-Ray and colleagues (2012) found social cohesion as a determining factor of attendance in exercise and nutrition programs for women of color. The self-determination theory emphasizes feelings of relatedness as important intrinsic motivators for physical activity and adherence (Deci & Ryan, 1985). Regarding athletes specifically, team cohesion and perceived motivational climate have been found to be strongly positively associated (Horn et al., 2012). A meta-analysis of qualitative research regarding motives to engage in physical activity and sport found that support from family and significant others, developing social networks, and shared experiences were all described as attractive and enjoyable aspects of participation from youth through elderly (Allender, Cowburn, & Foster, 2006).

Theme 4) Feeling Healthy/Good

Participants reported feeling healthy or good after partaking in physical activity. Although participants acknowledged that they were generally tired directly after exerting energy, they agreed that they felt better long-term after exercising. Other studies have supported these results, finding that individuals who regularly exercised were less likely to report poor mental health and perceived stress and saw increases in health-related quality of life (Lerdal et al., 2013; VanKim & Nelson, 2013).

Theme 5) Advancement/Accomplishment

Improving upon current skills or learning new skills can be linked to overall competence as a source of enjoyment in physical activity. Competence is part of a triad of necessities of the self-determination theory that contribute to intrinsic motivation to engage in and enjoyment in physical activity (Deci & Ryan, 1985). Participants were highly attracted to activities in which they could learn new skills, even if they were initially uncomfortable with the activity: "... But afterwards you feel good because you learned a new thing, and it just makes you feel awesome," (Non-athlete). In addition, the participants frequently mentioned accomplishment as a source of motivation to exercise; however, competition was self-directed rather than with others. For example, one athlete was cited as saying, "Something that motivates me to exercise is having a long term goal to work for, so like a big running race for me, so that I can complete it," and one non-athlete stated, "I also think it's cool to be able to compete with yourself, especially with weight lifting, to see how much you can improve, and realizing that you're lifting more than you were a month ago, and just knowing that you have that competition just with yourself." These results were surprising, as athletes have generally been reported to be far more competitive than their non-athlete counterparts (LaChausse, 2006). However, research has also found women to be far less likely than men to rate competition with others as a motivation to exercise (Mathes & Battista, 1985).

Theme 6) Enjoyment (Athletes Only)

The last theme to arise was seen in the athletes sample only and related to feelings of enjoyment derived from sport as a form of physical activity. "The thing that motivates me the most is knowing that it's what I love to do. I love the feeling you get, the high, the power, and just how it makes me feel." The fact that this theme was not prevalent in the non-athlete's subgroup suggests that athletes are possibly more likely to enjoy exercise itself, rather than its rewards, than non-athletes. This motivation due to genuine pleasure derived from an activity rather than its external returns is the definition of intrinsic motivation (Deci & Ryan, 1985). This is in line with previous research that suggests that athletes are more likely to engage in physical activity because of an inherent tendency to seek challenges and to push past their boundaries (Vallerand & Losier, 1999).

Aversion to Physical Activity

Theme 1) Incompetence

The self-determination theory emphasizes the need for competence in developing intrinsic motivation to engage and adhere to exercise and sport activity (Deci & Ryan, 1985). This helps explain why the participants of the current study listed potential failure and the inability to successfully participate physical activity as aversive conditions of physical activity. "My least enjoyed physical activity is hard to say... Probably swimming because I'm not good at it. That's another reason that I like running, is because I'm good at it and I excel at it. So, swimming, I find it very hard to breathe, and it freaks me out. I'm not good at it. It's something that I've never been trained at, and I would like to be better at it, so I might end up doing it, but I really don't like it." Research supports the SDT that a lack of competence hinders sport enjoyment (Davison, Schmalz, & Downs, 2010).

Theme 2) Pain or Injury (Athletes Only)

A number of athletes mentioned certain injuries and aversion to pain as reasons for not wanting to participate in physical activity. "I've been sitting out because I have back spasms a lot. I've been having problems with that, so that's the least fun... Pain. It's a very hard barrier, pain, and when to know to stop, and when is it just soreness or is this something that's serious?" Research supports this theme of injury as an aversive factor to physical activity enjoyment (Biber et al., 2013). It is unclear from previous research why this theme was only apparent within the athlete's subgroup. As this theme typically related to current injuries or pain from current injuries, it could be deduced that this sample of athletes was possibly more susceptible to exercise-induced injury due to the greater number of days on average that they exercised per week.

Limitations

It was attempted to conduct the present research with minimal bias and external influence, but as with all research, certain limitations were inevitable. It is possible that certain responses during the individual interviews were due to social influence or pressure. Also, the study cannot be generalized to women athletes and non-athletes outside of the university setting. Future research could be conducted with various samples of women to increase the scope of aversion and attraction to physical activity. It could also be helpful to the specific subgroups of athletes, such as university, club, intramural, and/or recreational sports. Three of the participants currently participating in university athletics mentioned incentives as an attractor to physical activity and burnout as a barrier to physical activity. Understanding why athletes and non-athletes experience these increases in burnout, depression, anger, and fatigue during current or previous sport

participation could help coaches and universities create a more enjoyable sport experience.

Conclusions

The present sample of collegiate women expressed various a multitudes of factors that contributed to their attraction and aversion to physical activity. With the rising rates of physical inactivity (Ogden et al., 2012), finding ways to improve the availability of enjoyable physical activity is essential. With female college students in particular, it is important to design physical activity programs with the expressed needs to feel confident, competent, and socially supported when engaging in physical activity in mind so as to cultivate intrinsic motivation and therefore adherence to exercise, as women tend to decrease their participation in physical activity as they age (Gonçalves et al., 2011). By understanding the themes related to aversion to physical activity, programs could attempt to minimize failure and injury so as to increase enjoyment. Student recreation centers could devise physical activity programs with an understanding of collegiate life, the need to balance schoolwork, occupation, and recreation, and a concentration of enjoyment aspects of intrinsic motivation. This study furthers the understanding regarding the motives of college females' engagement in physical activity.

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Appendix B

Table 1

Semi-Structured Interview	
Question 1	When you think about physical activity, what comes to mind?
Question 2	Describe your favorite physical activity experience.
Question 3	How does physical activity influence how you feel about your appearance?
Question 4	What motivates you to exercise?
Question 5	How do your friends or family influence your choice of physical activities?
Question 6	Describe how you feel when you try a new physical activity.
Question 7	Describe your least enjoyed previous exercise experience.
Question 8	When you think about barriers to exercising, what comes to mind?

List of questions asked in the interview process.