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The Impact of Gender on Perception of Risk During Exercise

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The impact of gender on perception of risk during exercise

ABSTRACT

An individual's decision to engage in physical activity is driven by perceived benefits and risks. Activities that are considered risky may have limited involvement or participation. As such, understanding risk perceptions of specific physical activities is important, specifically for college students, whose engagement in physical activity decreases during their transition from high school to college. The purpose of this study was to identify college students' preferred exercise areas within the recreation center, their exercise frequency, and their perceptions of risk and injury. The participants in the study comprised 232 college students enrolled at a mid-sized public university located in southeastern North Carolina. Students completed a survey with three sections, focusing on demographics, workout behavior, and perceived exercise risks, respectively. Data were analyzed using SPSS version 26. Most of the

participants were 18 years old (32.8%) and identified as female (56.9%). Significant gender differences were found. Gender influenced the number of hours students spent working out per week, the area of the recreation center utilized, and the exercise activities conducted, the perceptions of how injuries occur, and the number of supervisors present during their workout. The findings indicate a need for further educational programming in recreation centers regarding the proper use of all fitness equipment. Such education could increase usage in all areas, as well as decrease the perceived risks of using specific pieces of equipment, especially amongst women.

Keywords: Physical Activity, Risk Perception, Recreation, college students, workout behavior

INTRODUCTION

Participation in physical activity is linked to a decreased risk of physical ailments such as cardiovascular disease, type 2 diabetes, and several types of cancer (12). Mental health benefits are also derived from physical activity with studies showing reduced risks of anxiety, stress, depression, and overall improvements in mood (8). However, engagement in physical activity is associated with an individual's perception of the pros and cons of exercise (2): risk is inherent with physical activity. "Taking risks encompasses behavior that at the same time involves the chance of beneficial outcome as well as possible negative or harmful consequence" (9). Poor ability and a lack of self-efficacy can prevent participation in physical activity (10), and those who lack self-confidence are more likely to injure themselves (4).

In young adults, the greatest behavior changes occur during the shift from high school to college/university (5). Some research shows that during this transitional time, physical activity levels decrease (1, 3, 5), and it is important to identify ways to increase and promote participation to assist their health and wellbeing (14). Overcoming negative risk perceptions is one way to increase participation.

The purpose of this study was to investigate college students' workout behavior, specifically in relation to their perceptions of risk and injury while exercising. Gender differences were also explored, e.g. whether a participants' gender would impact the part of the recreation center utilized and/or the type of exercise conducted, or whether the cardio area of the recreation center was more likely to be used as opposed to the free weights. Additionally, whether participants would view risk differently by gender, with a higher level of risk being placed on certain activities, was also investigated.

METHODS

Data were collected in the spring semester from students attending a mid-sized, public university located in southeastern North Carolina. The survey was divided into three sections. The first section included demographics and background information such as age and gender. The second section aimed to establish an individual's workout habits. It included questions related to the number of hours spent exercising, preferred exercise times, favored

equipment and activities, and personal exercise habits such as time spent on stretching, free weights, machine weights, and cardio or agility work. The third section examined students' perceptions on the cause of injuries in relation to an individual's prior knowledge or experience, overexertion, a lack of supervision, and a lack of signage or information. It also examined students' previous experience with exercise coaching, and their attitudes regarding associated risks with specific workout related activities. Lastly, the survey asked if any aspect of their workout caused them to feel unsafe.

Participants were approached at random on-campus as they exited the student recreation center. Participants were informed of the nature and purpose of the study and asked if they were interested in participating. Those that agreed were given an iPad that contained a link to an IRB approved survey. It took approximately five minutes to complete the 15-question survey. No incentives were used to entice responses. Participants had to be 18 years of age or older to be eligible to participate and exercise at the recreation center. Data was entered into SPSS 26 for analysis.

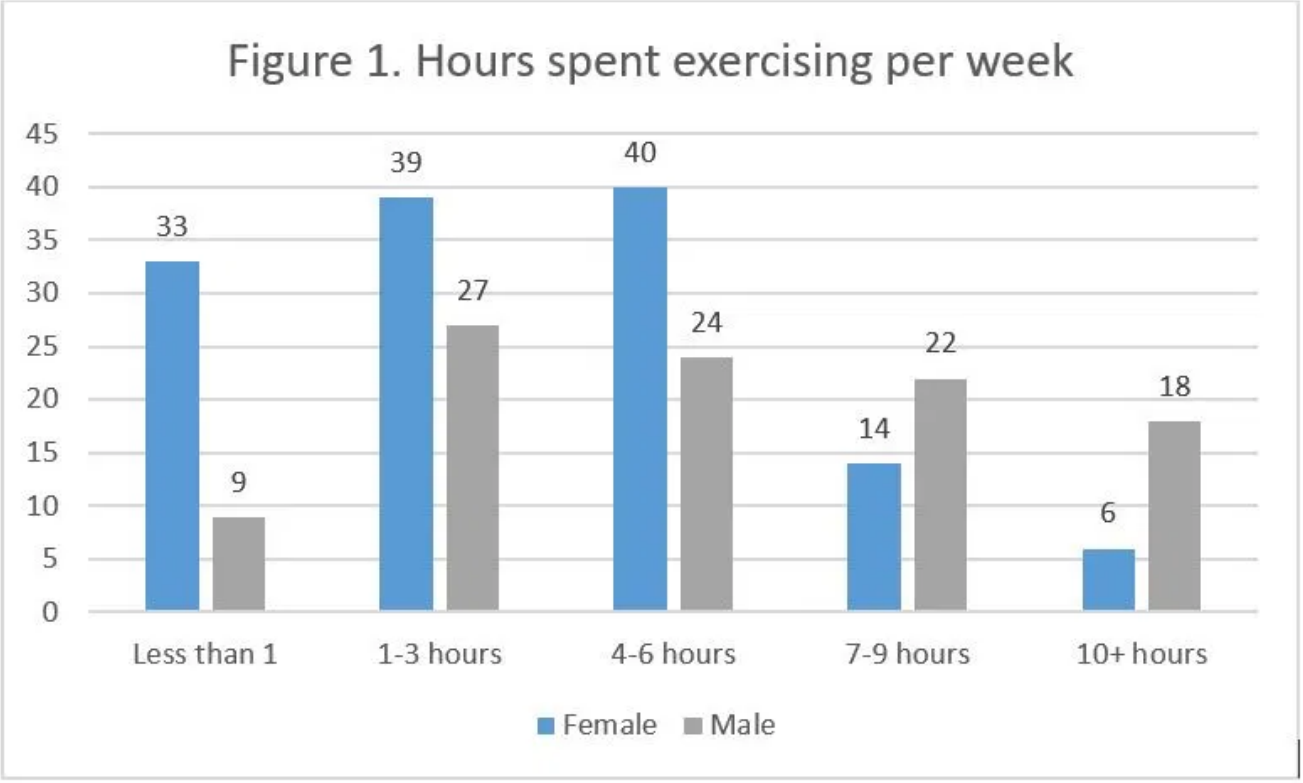
RESULTS AND DISCUSSION

Demographics

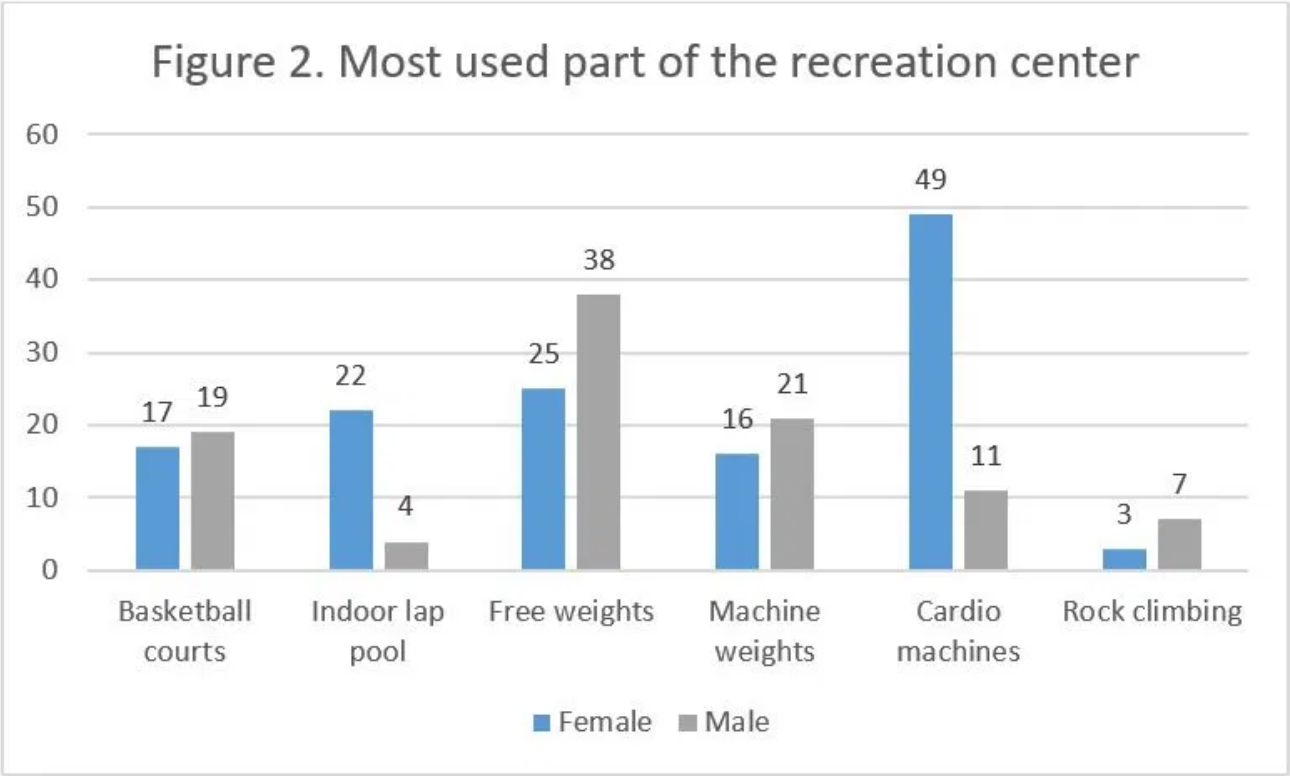
There were 232 completed student surveys. Ages ranged from 18 to 25 (M=20.11, SD=2.01). Of the reported ages, 32.8% were 18 years old, 14.7% reported being 19, 13.8% reported being 20, 13.8% reported being 21, 10.8% reported being 22, 6.5% were 23, 2.6% were 24, and 5.2% reported being 25. Gender was also evaluated, with 56.9% identifying as female and 43.1% identifying as male.

Gender

Chi-square tests of independence were utilized to explore the relationship between gender and the categorical variables included in workout habits and perception of risk. To begin, a chi-square test of independence was conducted to evaluate for gender differences and hours spent per week working out in the recreation center. A significant relationship was found between gender and hours spent per week working out x^2 (4, N=232) =23.71, p=.001. Therefore, the amount of time males exercise per week is different from a proportion of the females. When looking at responses per gender, females were more likely to report they spent between "less than 1 hour", "1 – 3 hours", and "4-6 hours" compared to males who were more likely to report spending between "7-9 hours" and "10+ hours" at the recreation center per week compared to females (Figure 1). These findings could be attributed to the areas of the recreation center they are more likely to use and the time it takes to use that piece of equipment.



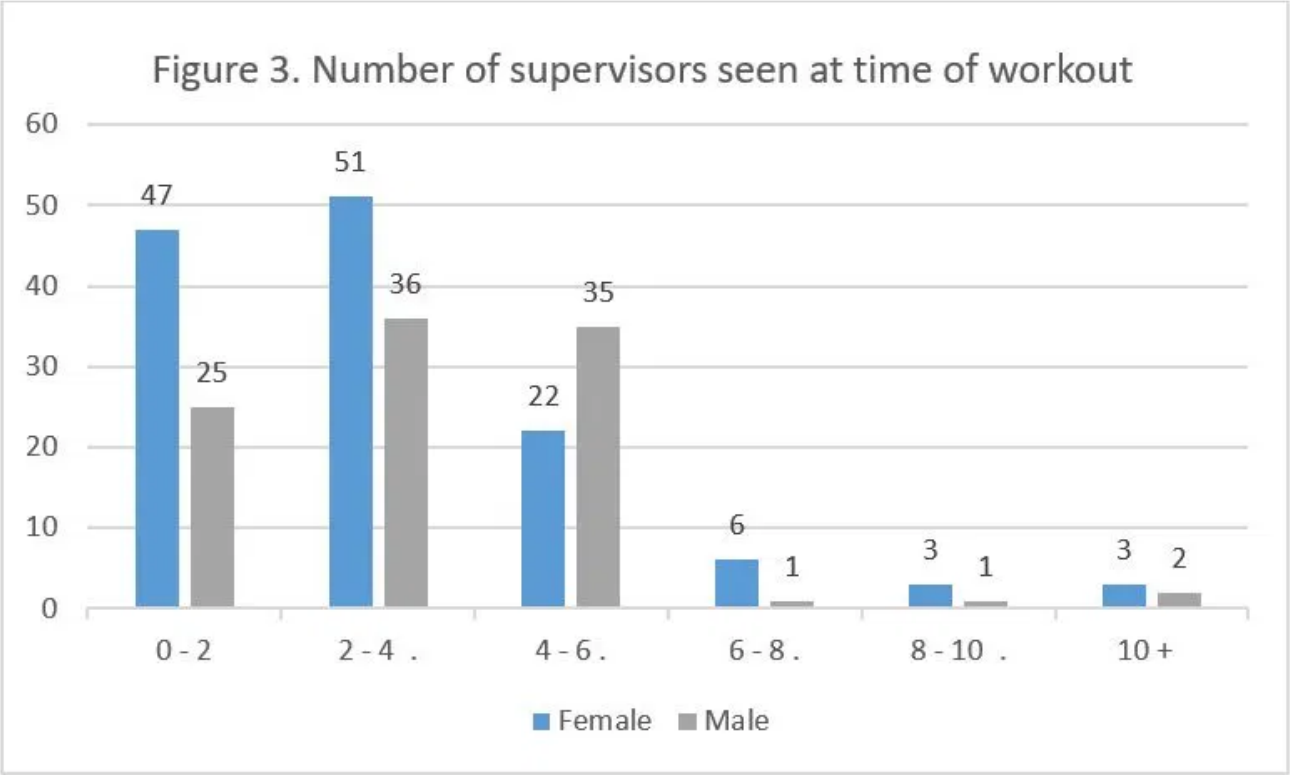
The relationship between gender and part of the recreation center used was also evaluated using a chi square test of independence. A significant relationship was found between gender and parts of the recreation center used x^2 (5, N=232) =37.91, p=.001. Responses per gender show females were more likely to report using the pool and cardio machines compared to males. Males also reported higher use on the remaining variables (basketball courts, machine weights, and rock-climbing wall), and the greatest distinction was found on males use of free weights (Figure 2). An additional chi-square test of independence was run to evaluate specifically the difference in gender usage with free weights. As suspected, analyses revealed a significant relationship between gender and time spent on free weights, x^2 (4, N=232) =26.157, p=.001. These results are consisted with other research, which also found that females are more likely to choose cardiovascular equipment and activities when compared to their male counterparts who prefer weightlifting and team sports (7).



One-Way Analyses of Variance (ANOVA) were conducted to examine the impact of gender on students' perception of risk and the cause of injuries. A significant gender difference was found in the students' perception of how injuries occur [F (1, 230) = 4.841, p = 0.029]. Males more strongly agreed that injuries occur due to a lack of prior knowledge of equipment or exercises (M = 4.10, SD = 1.243) compared to females (M = 3.67, SD = 1.604). No differences were found for gender and perception of risks due to overexerting the body, a lack of supervision, a lack of signage or information about specific exercises or equipment.

A chi-square test of independence found more males had received previous professional coaching or training on free weights compared to females x^2 1, N=232) =4.339, p=.037. This significant relationship could explain why male students use free weights more than females and suggests that females may not partake in this exercise as much as male students due to a lack of training or instruction.

The relationship between gender and number of supervisors present at time of workout was also evaluated. A chi-square test of independence suggests a significant relationship between gender and supervision, x^2 (5, N=232) =12.876, p=.025 (Figure 3). Female participants reported having less supervision than male participants did. However, this could be attributed to supervisors monitoring free weight areas of the recreation center more than the cardio equipment area.



CONCLUSIONS

Engaging in physical activity has a plethora of physical and mental benefits (12, 8). During a pivotal time in self-discovery from the transition to college, students tend to reduce their participation in physical activity (3, 5). By understanding students' exercise preferences and the perceived risks associated with certain exercise activities, an institution's recreation center can minimize these barriers to increase usage and safety perceptions.

Overall, results of this study demonstrated a difference between workout behaviors and perceived risk between male and female college students. Men tended to participate in exercise more per week with their preferred activity being free weights while women favored the cardiovascular equipment. Males perceived a lack of knowledge of the equipment or the exercise to be an indicator of injury risk. Additionally, males received more training on the use of free weights when compared to their female counterparts.

The participants in our study, who felt unsafe in the recreation center due to no or little experience with the different areas, chose to use the cardio machines. With most of the participants choosing to use the cardio machines being female, this supports other research that shows that voluntary risk-taking practices are intertwined with gender (6, 11). Furthermore, previous research also suggests that risk is an integral component to the perception of masculinity (13). Lastly, this study identified that females identified less supervision in the recreation center, which could also contribute to the feeling of increased risk and the feeling of being unsafe.

APPLICATIONS IN SPORT

An individuals' choice to participate in physical activity is guided by multiple factors. With the decrease in students participating in physical activity from high school to college, it is beneficial to identify preferences and barriers, which can assist in the understanding of recreation center usage among college students (1). This study demonstrated that females chose to use more cardiovascular equipment yet felt unsafe and had less supervision. Men indicated that they preferred to use free weights and indicated that they had significant training in the use of that equipment. It appears that student preference is linked to their comfort using that equipment based on formal training and perceived risk. Student recreation centers could tailor educational programming and trainings to increase students' familiarity with the different areas to promote overall wellness. In addition to improved education, ensuring that all aspects of the recreation center are equally monitored could also increase feelings of safety.

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