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Research indicates that Black undergraduate students face unique needs and barriers within University Recreation programming. University Recreation professionals need to implement appropriate and suitable physical activity opportunities for students since increases in the number of Black students who attend four-year institutions continue to grow. Therefore, it becomes more important for University Recreation departments to initiate, increase, or sustain their physical activity participation. The purpose of this study was to examine disparities amongst Black and White undergraduate students' determinants for physical activity and develop recommendations for University Recreation programming efforts to reduce the gap in physical activity participation between the racial groups. One hundred thirty-six Black and White undergraduate students were surveyed at a mid-sized Southeastern University. A three-way ANOVA examined differences on the Exercise Benefits and Barriers Scale (EBBS) scores, sex assigned at birth, race, and physical activity guidelines being met. Furthermore, a descriptive report of the cues to action responses was created to display commonalities and differences between Black and White students. The findings showed the percentage of Black students who met physical activity guidelines for active adults was lower than White students, especially with female students. Black undergraduate students perceived exercise more positively than White undergraduate students, and both races perceived exercise more positively when they met the physical activity guidelines for active adults. Analysis of the findings provided recommendations of 'Longer Hours', 'More Workout Classes', 'More Marketing', and 'Other Exercise Opportunities' to University Recreation professionals to help initiate, increase, or sustain Black

undergraduate students' physical activity participation. Further research should investigate other student groups and their participation in physical activity within University Recreation services.

DISPARITIES AMONGST BLACK AND WHITE UNDERGRADUATE STUDENTS'
PERCEIVED BENEFITS, PERCEIVED BARRIERS, AND CUES TO
ACTION FOR PHYSICAL ACTIVITY

By

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CHAPTER I: PROJECT OVERVIEW

Racial minority undergraduate students such as the Black undergraduate population fail to reach physical activity recommendations as compared to the White undergraduate population (Jones et al., 2015; McArthur, 2009). These disparities in physical activity participation among Black and White individuals contribute to differences in health issues with Black individuals leading in the development of negative health conditions. At college ages, Black individuals were more likely to report being obese, having high blood pressure, and diabetes compared to White individuals (Cunningham et al., 2017). For the last 20 years research has reported that higher rates of obesity are observed among racial minority groups, most notably Black undergraduate students (Nelson et al., 2007). There is a critical need for investigators to identify why Black undergraduate students are not as physically active compared to White students when there appears to be equal access to physical activity opportunities on a four-year institution's campus.

From 1980 to 2014, the share of white undergraduate student enrollment has declined from 81% to 55%. During the same period, the share of minority undergraduate student enrollment has increased steadily including from 10% to 14% for Black students (U.S. Department of Education, 2016). With the increase in racially diverse populations such as Black individuals attending four-year institutions (National Center for Education Statistics, 2020), it is important to identify why these students are not meeting the physical activity guidelines. One method to determine factors that influence physical activity is to identify their physical activity determinants. Many determinants influence an individual's beliefs and health behavior. These physical activity determinants have been researched across various racial groups (Suminski et al.,

2002; Williams et al., 2018), however current research is limited in the assessment of the disparity between physical activity determinants of White and Black undergraduate students. Most of the current research focuses on primarily White students as the target population. An extensive search on all library databases revealed that current literature includes very few minority students, and the researchers did not typically investigate differences amongst racial groups.

The present study intended to expand the current literature to include minority undergraduate students' determinants for physical activity. This sought to examine disparities amongst Black and White undergraduate student's determinants (perceived benefits, perceived barriers, and cues to action) for physical activity in conjunction with student's sex assigned at birth and physical activity level. In turn, the findings in this research were used to develop recommendations for University Recreation programming efforts to reduce the gap of physical activity participation between the racial groups. Overall, this research can serve as a blueprint for University Recreation professionals to create physical activity opportunities for Black undergraduate students, which are aimed to initiate, improve, or sustain their physical activity participation.

Relevant Literature

Physical activity levels among undergraduate students continue to reflect a decreasing trend. In the Spring 2021, 42% of undergraduate students met the minimum standards to be classified as an 'Active' individual (American College Health Association, 2021). A little over a year later In the Fall 2022, the American College Health Association (ACHA) reported only 40% of undergraduate students met the minimum standards to be classified as an 'Active' individual (American College Health Association, 2022). According to the U.S. Department of Health and

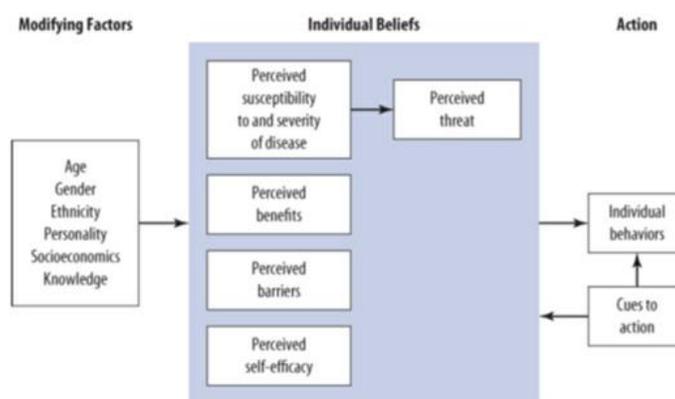
Human Services, an 'Active' individual is categorized as a person participating in at least 150 minutes a week of moderate-intensity or 75 minutes a week of vigorous-intensity aerobic physical activity, and muscle-strengthening activities of moderate or greater intensity that involve all major muscle groups on 2 or more days a week (2018b). Based on the trends revealed in the ACHA executive summaries, it is concluded that most undergraduate students do not meet recommended federal guidelines for physical activity. These findings within an ACHA executive summary are intended to be used to change policies and practices within four-year institutions. As a result, many studies have focused on undergraduate student's physical activity participation and their determinants for physical activity (S. A. Brown, 2005; Das & Evans, 2014; Grubbs & Carter, 2002).

Health Belief Model

As shown in Figure 1, the Health Belief Model is a theoretical approach consisting of determinants such as perceived barriers, perceived benefits, perceived susceptibility, perceived severity, cues to action, and self-efficacy, which aid in explaining and predicting an individual's health behavior (Glanz et al., 2015). The determinants for the health behavior of physical activity participation will be different for each individual due to differing factors including age, gender, socioeconomic status, knowledge, personality, and race/ethnicity (Glanz et al., 2015). Shaikh et al. (2018) have contributed to the body of knowledge by reporting individual factors that are important in an undergraduate student's perception of their environment and can influence whether a person decides to use the University Recreation services. Glanz et al. (2015) also suggested modifying factors may affect beliefs and indirectly influence health behaviors. For example, a variable such as socioeconomic status or ethnicity can create differences in specific beliefs and indirectly influence behaviors. In an earlier analysis from Kovac and Beck (1997),

who aimed to evaluate undergraduate student’s physical activity participation, found perceptions from certain races impacted physical activity participation. For example, racial minority individuals differ from White individuals concerning how they participate in physical activity and what they perceive as benefits to participation. It can be concluded from these studies that individual factors and determinants for physical activity influence physical activity participation at four-year institutions.

Figure 1. Health Belief Model



Note. This image was created to explain and predict individual changes in health behaviors.

From Health behavior: theory, research, and practice (p. 102), K. Glanz, 2015, Jossey-Bass & Pfeiffer Imprints, Wiley. Copyright 2015 by Karen Glanz. Reprinted with permission.

Individual Factors and Determinants for Physical Activity

Determinants for physical activity (e.g. perceived benefits) and individual factors (e.g. race) are relevant factors that contribute to improvements or limitations in undergraduate student’s physical activity participation; however, the relationships that exist to explain this connection are currently unknown. For instance, the work of Ka and Ra (2014) demonstrated that certain determinants had an effect on undergraduate student’s physical activity participation, however they did not study how a racial group presented different determinants than another racial group. Deliens et al. (2015) showed similar limitations in investigating undergraduate

student's determinants for physical activity at a four-year institution. A limitation in these studies was their inability to differentiate determinants for physical activity within different racial groups, which has shown to affect physical activity participation at a four-year institution (Hoang et al., 2016). In addition, another weakness was that these studies investigated barriers, benefits, and cues to action for physical activity of primarily White undergraduate students. Depending on the racial group, the amount and specific perceived barriers, perceived benefits, and cues to action for physical activity can vary. For example, Hall et al. (2002) reported on a sample of 226 Black undergraduate students and 32 Hispanic undergraduate students and investigated their perceived benefits and barriers for physical activity. The researchers determined Hispanic students rated perceived benefits for physical activity higher than Black students, while Black students rated perceived barriers for physical activity higher than Hispanic students. Other research studies have reviewed specifics of Black undergraduate student's determinants for physical activity. For example, in a study featuring forty-nine Black female undergraduate students, nearly half of participants announced the lack of offered programs that catered to their cultural/ethnic/racial background as barriers (Carter-Francique, 2011). Based on the evidence cited above, it is best to understand that certain racial groups will elicit specific determinants for physical activity participation.

Disparities in Physical Activity Participation and Health Issues

Regular physical activity is a crucial component in developing and continuing a healthy lifestyle for undergraduate students, while physical inactivity can create adverse effects on a student's health and wellness. Unfortunately, minority undergraduate students are currently at an increased risk for negative health conditions compared to White undergraduate students due to the lack of physical activity participation. This is partly due to Black undergraduate students

reporting that they typically do not reach physical activity recommendations compared to the White undergraduate population (Jones et al., 2015; McArthur, 2009). These disparities in physical activity participation amongst Black and White individuals, also display differences in health issues. At college ages, Black individuals were more likely to report being obese, having high blood pressure, and diabetes compared to White individuals (Cunningham et al., 2017). In a previous research study, it was reported that higher rates of obesity are observed among racial minority groups, most notably Black undergraduate students (Nelson et al., 2007). Participation in recommended levels of physical activity can serve as a prevention or treatment method for health conditions. In a 2017 systematic review, routine physical activity was associated with reduced risks for diverse health outcomes such as cardiovascular disease, all-cause mortality, all-cancer mortality, type 2 diabetes, hypertension, breast cancer, colon cancer, gestational diabetes, gallstone disease, ischemic heart disease, and ischemic stroke (Warburton & Bredin, 2017). In addition, R. E. Brown et al. (2013) reported in all age categories, lightly, moderately, and very active adults had a lower mortality risk compared to inactive adults. These findings present relevant correlations between recommended physical activity participation and the reduction of risk for certain health conditions. University students can meet the recommended physical activity levels through regular participation of campus resources such as University Recreation.

University Recreation

University Recreation is a physical activity opportunity available for students on a four-year institution's campus. Professionals in University Recreation have recognized that their services contribute to multiple health benefits such as improved self-confidence and weight control of undergraduate students (Forrester, 2014; Vasold et al., 2018). The most recent findings in University Recreation support this concept by reviewing time investment, which includes the

frequency of visits (times per week) and the duration (minutes) of each visit. These researchers reported students investing high time in University Recreation services are seven times more likely to report a benefit to their physical health than students with low time investments (Vasold et al., 2018). The importance of University Recreation departments is reinforced by the decline in the number of Instructional Physical Activity Programs (Strand et al., 2010) and the institutional support in the size, amenities, and funding of University Recreation facilities at four-year institutions (Kampf et al., 2018). Although successful creation of University Recreation programs and events have contributed to certain health benefits to the general student body, little research has been conducted on meeting the recreational needs of certain racial groups within University Recreation (Kaltenbaugh et al., 2017). One qualitative research study about students of color participating in outdoor recreation programming mentioned that students of color's participation in those programs were negatively influenced by socialization/subculture barriers and economic/access barriers (Schwartz & Corkery, 2011). Williams et al. (2018) carried out a study featuring forty-five Black female undergraduate students reported the need for different types of physical activity opportunities because the students' preferred opportunities were not offered by the institution. Research indicates that Black undergraduate students face unique needs and barriers within University Recreation programming.

Purpose and Aims

The primary purpose of this research was to examine Black and White undergraduate students' perceived benefits, barriers, and cues to action for physical activity. The secondary purpose was to develop recommendations for University Recreation programming efforts to reduce the gap of physical activity participation between the racial groups. The specific aims were:

- Aim 1: Identify disparities amongst Black and White undergraduate students' determinants for physical activity at a four-year institution.
- Aim 2: Develop recommendations based on Black undergraduate students' determinants for physical activity to formulate physical activity opportunities created within University Recreation services.

Methods

IRB approval was obtained prior to the collection of data of undergraduate students. The recruitment of Black and White undergraduate students at a medium-sized southeastern University occurred during the Spring and Summer 2022 semesters.

Subjects and Setting

The undergraduate population is made up of about 65% female gender and 50% racial minority. To reduce selection bias, participants were recruited from required general education courses at the University. The required general education courses have students who participated in different levels of physical activity and enrolled in different majors. Over twenty professors of these courses were emailed to ask them if they would be willing to ask their students to complete the research survey in their classes for the project. Six professors agreed to the participation in this research and the scheduling of days and times to meet with the individual classes occurred.

A total number of two hundred and eighty students across all six courses were given the opportunity to participate. Data for students meeting the following criteria were analyzed for this research: current full-time undergraduate students, identify as White or Black race, and non-varsity student athletes. Individuals who did not identify as Black or White race or identified as mixed-race, enrolled as part-time undergraduate students, classified as a collegiate student athlete, or did not complete the questionnaires were excluded from the study. Student athletes

were excluded due to positive ideologies of physical activity and current physical activity levels due to athletic practices and conditioning sessions. According to the Office of Management and Budget (n.d.), race categories are used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. An individual identifying as “Black” featured a person having origins in any of the black racial groups of Africa. An individual identifying as White featured a person having origins in any of the original peoples of Europe, the Middle East, or North Africa (U.S. Census Bureau, 2020). This study focused on identifying Black and White undergraduate students’ perceived barriers and perceived benefits for physical activity. Mixed-raced students were excluded due to the intention of this study to survey students who identified as one race in order to create a comparison between this study’s findings and the current literature. Four students’ data were not included due to incomplete survey data.

Data Collection

Three surveys were administered to undergraduate students through two options. Students had the option to either complete the three surveys on-line via Qualtrics or paper survey format. For the paper survey, students were given printed versions of the surveys to complete. Pens were given to ensure a proper writing utensil was available. For the Qualtrics survey, students accessed the surveys through a URL link. Each access link was shown to the students on a projector screen within the classroom. Students accessed the link by typing the <https://tinyurl.com/uncgclass> URL link into their browser, then pressing enter on their electronic device. Both survey options were completed in-class and during the class period. The researcher was present to answer any questions and explain each survey to the students.

Instruments

The following demographic information was collected: sex assigned at birth (Male or Female), age (Years), year of study (Freshmen, Sophomore, Junior, Senior, Other), major (Degree Program), collegiate student athlete (Yes or No), kinesiology degree-seeking student (Yes or No), student status (Full-time or Part-time), and race (Black, White, or Other).

Participants either responded to the questions by selecting predetermined responses (e.g. Race) or responded with open-ended responses (e.g. Age).

Current physical activity participation was examined through the three physical activity questions from the American College Health Association-National College Health Assessment III (American College Health Association, 2022). The Physical Activity Questionnaire questions were: “In the last 7 days, on how many days did you do exercises to strengthen or tone your muscles? Examples: push-ups, sit ups, or weightlifting/training”, “In the last 7 days, how many (total) minutes did you spend doing vigorous physical activity? Examples: running, swimming laps, or hiking”, and “In the last 7 days, how many (total) minutes did you spend doing moderate physical activity? Examples: brisk walking, dancing, or household chores.” Participants responded to the survey indicating a number figure to represent their physical activity. The duration of time and frequency recorded within each physical activity category determined if an individual was labeled as ‘Physical activity guidelines met for active adults’ or ‘Physical activity guidelines not met for active adults.’ These labels were based on Federal physical activity guidelines for adults through the U.S. Department of Health and Human Services. Individuals were labeled as ‘Physical activity guidelines met for active adults’ if they fall under the ‘Active’ and ‘Highly Active’ categories within the Federal physical activity guidelines for adults. On the other hand, individuals were labeled as ‘Physical activity guidelines not met for active adults’ if

they fell under the ‘Inactive’ and ‘Insufficiently Active’ categories within the Federal physical activity guidelines for adults. Survey participants were instructed to consider all physical activity experiences when responding.

Exercise Benefits and Barriers Scale (EBBS) was used to identify certain determinants such as perceived benefits and perceived barriers towards physical activity (Sechrist et al., 1987). The EBBS is a 43-item questionnaire that asked participants to rate their agreement and disagreement to perceived benefits and perceived barriers. The perceived benefits are on a 4-point Likert scale (1-Strongly Disagree to 4-Strongly Agree), and the perceived barriers are on a 4-point Likert scale (1-Strongly Agree to 4-Strongly Disagree). The higher the EBBS score, the more positively the individual perceives exercise. The EBBS featured subscales for perceived benefits and perceived barriers. The perceived benefit subscales included ‘life enhancement’, ‘physical performance’, ‘psychological outlook’, and ‘social interaction’, while the perceived barrier subscales included ‘exercise milieu’, ‘time expenditure’, ‘physical exertion’, and ‘family discouragement.’ Survey participants were instructed to consider their current physical activity beliefs when responding. In addition, the EBBS was modified to include an open-ended question at the end in which participants would explain cues to action which could initiate, increase, or sustain their physical activity participation. The open-ended question was ‘What could University Recreation/Fitness Center do to initiate, increase, or sustain your physical activity participation?’

Procedures

During one class session, students were given 20 minutes to complete the informed consent and all questionnaires: (1) Informed Consent (2) Demographic Questionnaire, (3) Physical Activity Questionnaire, and (4) Exercise Benefits and Barriers Scale. Each section was

described to the participants by the researcher. They had the opportunity to ask questions to reduce confusion and enhance survey content awareness. Students were informed that their responses would not be shared with the course instructor and their grade would not be dependent on completion of the questionnaire.

Data Analysis

Statistical analysis was carried out using IBM SPSS Statistics for Windows, Release 28. All data collected were analyzed to determine disparities and recommendations. A three-way ANOVA examined differences in Exercise Benefits and Barriers Scale score according to sex assigned at birth (two levels: Male, Female), race (two levels: Black, White), and physical activity level (two levels: Physical activity guidelines met for active adults, Physical activity guidelines not met for active adults). Responses were analyzed to identify disparities amongst Black and White undergraduate students (Aim 1). P-values were considered significant at the 0.05 level. The open-ended question was grouped by common responses. First, the researcher reviewed the results of the open-ended questions. After reviewing, the researcher identified common responses. The researcher went through the data again and created a descriptive report of response commonalities. Finally, the responses were analyzed with frequencies based on the information above. The top four responses were used to form recommendations for University Recreation physical activity opportunities (Aim 2).

Results

The study included 136 full-time undergraduate students from six courses. The average age of these participants was 19.05 years (SD=1.634), with a majority being female (61%), freshmen (55.1%), and Black (63.2%).

Table 1. Demographic Data for Undergraduate Students Participating in the Survey

		White (N=50)		Black (N=86)	
		N	%	N	%
Sex Assigned at Birth	Male	22	16.2%	31	22.8%
	Female	28	20.6%	55	40.4%
Year of Study	Freshmen	24	17.6%	51	37.5%
	Sophomore	13	9.6%	17	12.5%
	Junior	6	4.4%	15	11.0%
	Senior	7	5.1%	3	2.2%
Are you a Kinesiology degree-seeking student?	No	40	29.4%	64	47.1%
	Yes	10	7.4%	22	16.2%

Two hundred and twenty-six students were surveyed, but ninety students were excluded from the study due to the following: Individuals did not identify as Black or White race or identified as mixed-race, enrolled as part-time undergraduate students, classified as a collegiate student athlete, or did not complete the questionnaires were excluded from the study. Overall, the majority of students did not meet at least the ‘Active’ standards of the physical activity guidelines for adults (34%). Across sex assigned at birth and race, the percentage of Black male students (58%) who met physical activity guidelines for active adults was significantly more than White male students (31%). In addition, White female students (39%) who met physical activity guidelines for active adults was significantly more than Black female students (20%).

Table 2. Undergraduate Students Who Met Physical Activity Guidelines for Active Adults based on Race x Sex Assigned at Birth

Undergraduate Student	Percentage	Race x Sex Significance
White Female (n=11)	39%	.007
Black Female (n=11)	20%	
White Male (n=7)	31%	
Black Male (n=18)	58%	

For Exercise Benefits and Barriers Scores, participants scored from 90 to 163 (scores of 43 to 172 possible) and obtained a mean score of 134.14. Mean differences in EBBS Scores between Black and White undergraduate students reached statistical significance. Mean EBBS Scores were significantly higher for Black undergraduate students than White undergraduate students. Mean differences in EBBS Scores between Male and Female undergraduate students reached statistical significance. Mean EBBS Scores were significantly higher for Male undergraduate students than Female undergraduate students. Lastly, mean differences in EBBS Scores between undergraduate students who met physical activity guidelines for active adults reached statistical significance. Mean EBBS Scores were significantly higher for undergraduate students who met physical activity guidelines for active adults than undergraduate students who did not meet physical activity guidelines for active adults.

Table 3. Undergraduate Student’s EBBS Scores Based on Race, Sex assigned at Birth, and Physical Activity Guidelines met

Undergraduate Student	EBBS Score	SD	Significance
Black	135.76	12.21	.039
White	131.36	15.46	
Male	139.35	13.83	.001
Female	130.81	12.44	
Physical Activity Guidelines Met	138.59	11.70	.016
Physical Activity Guidelines Not Met	131.79	14.01	

Descriptive Report

A descriptive report was created to highlight cues to action for undergraduate students. Cues to action are factors which influence a health behavior. In this study, cues to action are responses from students which they felt could initiate, increase, or sustain their physical activity participation within the University Recreation department. The descriptive report is organized by the entire sample and an individual’s sex assigned at birth and race. The top four voted responses

for undergraduate students were ‘Longer Hours’, ‘More Workout Classes’, ‘Other Exercise Opportunities’, ‘More Marketing.’. Within the undergraduate sample, Black undergraduate students rated ‘Longer Hours’, ‘More Workout Classes’, ‘More Marketing’, and ‘Other Exercise Opportunities’ as their top four cues to action, while White undergraduate students rated ‘Longer Hours’, ‘More Equipment’, ‘Reduced Cost’, and ‘Other Exercise Opportunities’ as their top four cues to action.

Table 4. Cues to Action Descriptive Report by Race

Cues to Action	White		Black	
	N	%	N	%
Better Travel to Facility	1	2.0%	1	1.2%
Free Items	0	0.0%	1	1.2%
Haven't Visited Yet	2	4.0%	2	2.3%
Incentives	1	2.0%	2	2.3%
Introductory Lessons	2	4.0%	2	2.3%
Longer Hours	8	16.0%	12	14.0%
More Equipment	3	6.0%	4	4.7%
More Marketing	2	4.0%	5	5.8%
More Workout Classes	1	2.0%	7	8.1%
Insufficient/No Answer	20	40.0%	38	44.2%
Other Exercise Opportunities	3	6.0%	5	5.8%
Other Locations	0	0.0%	2	2.3%
Private Spaces	1	2.0%	1	1.2%
Reduce Cost	3	6.0%	3	3.5%
The People/Staff	2	4.0%	1	1.2%
Workout on App	1	2.0%	0	0.0%

Discussion

Survey results revealed that the differences between the determinants for physical activity between Black and White undergraduate students were significant. Mean EBBS scores were higher for Black undergraduate students than White undergraduate students. Compared to White undergraduate students, these scores demonstrate that Black undergraduate students perceive

physical activity as being more of a benefit than a barrier, which is a positive influence on physical activity participation. No studies have investigated the EBBS score differences of Black and White undergraduate students to assess physical activity participation, however this study provided data to better understand these differences.

With a mean value of 1.97 (SD=0.779) out of four, results indicated that the most significant barrier observed for these undergraduate students was ‘physical exertion.’ Within the EBBS, individuals who rated physical exertion as the most significant barrier to physical activity displayed that exercise is tiring, fatiguing, and hard work. Other studies have supported this finding of physical exertion being the highest barrier (Chung-Yan Chan, 2014; Grubbs & Carter, 2002; Kgekong & Parker, 2020). With a mean value of 3.60 (SD = 0.534) out of four, the results indicated that ‘psychological outlook’ was the most significant benefit. Within the EBBS, individuals who rated psychological outlook as the most significant benefit indicated that exercise makes them feel relaxed, gives improved feelings of well-being, and gives a sense of personal accomplishment. The psychological outlook benefit coincides with the importance of physical activity to induce stress-relieving abilities for undergraduate students (Bhochhibhoya et al., 2014; Farris & Abrantes, 2020; Petruzzello & Box, 2020). The stress-relieving potential of physical activity is highly relevant with the increase of mental health issues among college students (Flannery, 2023).

The relationship between physical activity (PA) levels and race were also similar to those reported in one research study (Williams et al., 2018). In this study, Black students having met physical activity guidelines reported a higher EBBS score than those who did not meet physical activity guidelines. White students having met physical activity guidelines reported a higher EBBS score than those who haven’t met physical activity guidelines. Similar research support

the findings of this study indicating that lower EBBS scores or a higher perception of barriers for physical activity is associated with decreased levels of physical activity in undergraduate students (S. A. Brown, 2005; Hurley et al., 2018; Kgekong & Parker, 2020).

In this study, the comparison of students meeting physical activity guidelines by race and sex was statistically significant. This information shows a difference in physical activity participation between Black and White students and Male and Female students. The percentage of Black males meeting the physical activity guidelines were significantly higher than White males. The percentage of Black females meeting the physical activity guidelines were significantly lower than White females. Black female undergraduate students (80%) reported least likely to meet physical activity guidelines. Black female undergraduate students' lower physical activity participation compared to White female students is reported in other studies (Blackshear & Seyfried, 2021; McArthur, 2009; Suminski et al., 2002; Williams et al., 2018), and creates an increased risk of negative health situations (Jones et al., 2015; Robinson et al., 2019; Sa et al., 2021; So et al., 2012).

Based on the results, this list of recommendations was created for University Recreation centers to potentially reduce physical activity and health disparities among Black and White students. These findings are in line with work by Williams et al. (2018), who also found that college students wanted more awareness of the programming. In this study, the top four stated responses for undergraduate students were 'Longer Hours', 'More Workout Classes', 'Other Exercise Opportunities', and 'More Marketing.' Study findings indicate that Black undergraduate students rated 'Longer Hours', 'More Workout Classes', 'More Marketing', and 'Other Exercise Opportunities' as their top four cues to action, while White undergraduate students rated 'Longer Hours', 'More Equipment', 'Reduced Cost', and Other Exercise

Opportunities as their top four cues to action. This study presented similar cues to action to another study. Williams et al. (2018) formulated responses to promote physical activity for college students and found that college students wanted increased awareness of physical activity programs, classes, and events, longer hours, and more physical activity programs during ‘free periods’.

Further practice implications include more marketing strategies within University Recreation. Based on the findings in this study, increased marketing was suggested by the students. Increased marketing can include a long-term marketing plan with strategic goals and priorities such as opportunities for stories, and photo shoots and video shoots throughout the year (Button, 2021). Millroy (2010) interviewed directors of campus recreation and other university professionals to determine how student physical activity promotion was conducted. The researcher found that marketing is important to students and specific marketing strategies should be explored by University Recreation professionals. For example, fliers, listservs, and emails throughout the community and different brochures in the facility to promote different activities have been used to promote physical activity. These strategies are typical marketing tactics on a university campus, however an attempt to ask the student through face-to-face contact could provide useful information from students who are not attracted to promotional material through flyers or emails.

Limitations

This study had limitations which influenced the results. The survey participants were asked to participate during the first week of classes, which may not have allowed a thoughtful and experienced opinion for most students especially if they were a first-year freshman. One student responded in the open-ended question portion of the survey and mentioned, “I am a new

student and I have yet to use the facility.” First-year freshmen won’t have in-depth opinions compared to upper classmen, who have experienced the campus and potentially the university recreation services in previous semesters. In addition, the open-ended question should have been more specific to combat the number of insufficient/no answers. For example, ‘What could University Recreation/Fitness Center do to initiate, increase, or sustain your physical activity participation? Please be specific on the exact ideas which you would like to see at University Recreation/Fitness Center.’ Furthermore, the addition of a secondary question in the survey could have been asked such as ‘Have you been to the Fitness Center’? Lastly, the administration of surveys could provide a more general overview compared to qualitative methods such as interviews and focus groups and did not gather students’ in-depth opinions and thoughts. A mixed-methods approach to the research with interviews or focus groups could have provided more detailed information to help create University Recreation recommendations.

Additional limitations exist due to the Health Belief Model’s lack of ability to consider certain aspects of an individual. For example, this model does not consider how an individual’s upbringing and past living environment affects their perception of physical activity and their physical activity participation. Similarly, an individual’s zip code could distinguish differences in physical activity opportunities due to an established built environment. Lastly, this model does not assess the unconscious reasoning as to why an individual does not choose to pursue a health behavior.

Students who did not identify as Black or White race or identified as mixed-race were excluded. A limitation was that the racial categories were delineated, and the limitations of the way race was constructed in this study. Students were included as "Black" if they selected "Black" on the survey and selected “Other” if they were any other race or mixed-race. Therefore,

the survey captured students who self-identify as Black or White. From this university sample it is highly likely that some students could identify as mixed race and some of the mixed-race students could be socially identified as Black.

CHAPTER II: DISSEMINATION

There will be a 30-minute PowerPoint presentation given to University Recreation professionals at the medium-sized southeastern University where the study was performed. The audience for the presentation will include around 15 University Recreation professionals who lead program areas such as fitness, outdoor recreation, informal recreation, intramurals, sport clubs, wellness, and aquatics. This presentation will share the voice of Black students at the university about the factors that influence their physical activity. Their voices will be coupled with other research findings and professional expertise to provide suggestions on how to potentially enhance the programming offered by the University Recreation. This section contains a narrative of the presentation. The PowerPoint slides can be found in the Appendix F.

Title (Slide 1)

Good afternoon. My name is Marcus Thompson, and I am currently a faculty member at a large-sized southeastern University. In a previous position at medium-sized southeastern University, I was a fitness coordinator in the Recreation and Wellness department, where I organized group fitness classes, personal training services, and purchased and managed the layout of fitness equipment. I have recently completed a research study called the “Disparities amongst Black and White undergraduate students’ perceived benefits, perceived barriers, and cues to action for physical activity.” Today, I’d like to share the results and takeaways of that study with you.

Objective (Slide 2)

I understand that my study’s title is very long, but to simplify the purpose, I had the objective to identify disparities amongst Black and White undergraduate students’ determinants

for physical activity at four-year institutions. In addition, I wanted to develop University Recreation recommendations to initiate, increase, or sustain Black undergraduate students' physical activity.

Purpose of Research (Slide 3)

Physical activity levels among undergraduate students continue to reflect a decreasing trend. In the Spring 2021, 42% of undergraduate students met the minimum standards to be classified as an 'Active' individual. A little over a year later In the Fall 2022, the American College Health Association (ACHA) reported only 40% of undergraduate students met the minimum standards to be classified as an 'Active' individual. Most undergraduate students, particularly Black undergraduate students, do not meet recommended federal guidelines for physical activity. I wanted to see what factors influence physical activity in undergraduate students.

Results (Slide 4)

In my study, I've found that most students did not meet at least the 'Active' standards of the physical activity guidelines for adults. In addition, a higher percentage of male students (47%) met the physical activity guidelines than female students (26%). A higher percentage of Black male students (58%) met the physical activity guidelines than White male students (31%). A higher percentage of White female students (39%) met the physical activity guidelines than Black female students (20%). According to the U.S. Department of Health and Human Services, an 'Active' individual is categorized as a person participating in at least 150 minutes a week of moderate-intensity or 75 minutes a week of vigorous-intensity aerobic physical activity, and muscle-strengthening activities of moderate or greater intensity that involve all major muscle groups on 2 or more days a week.

Results (Slide 5)

Before I continue, I must define perceived benefits, perceived barriers, and cues to action as determinants. Determinants are factors which decisively affect the nature or outcome of something. In my study, the determinants are perceived benefits, perceived barriers, and cues to action. Perceived benefits are an individual's beliefs about whether the recommended behavior will reduce the risk or severity of impact. Perceived barriers are an individual's assessment of the difficulties and cost of adopting behaviors.

Another finding within my study was whether students' perception of physical activity being more of a benefit or barrier. Through the usage of Exercise Benefits and Barriers Scale survey data within my study, some takeaways were that the perception of physical activity was more beneficial for Black undergraduate students than White undergraduate students. In addition, the perception of physical activity was more beneficial for undergraduate students who met physical activity guidelines for adults than undergraduate students who haven't met physical activity guidelines for adults. These findings come from the Exercise Benefits and Barriers Scale questionnaire which is a tool to measure benefits and barriers from exercises. The higher the EBBS score, the more positively the individual perceives exercise, which increases the likelihood for the individual to participate in physical activity.

Results (Slide 6)

Lastly, this study identified cues to action responses for both Black and White undergraduate students. Cues to action are internal or external factors that could trigger a health behavior. Again, these suggestions are to help initiate, increase, or sustain undergraduate students' physical activity participation within University Recreation. The most common responses for Black and White undergraduate students were for the University Recreation

facilities to have ‘Longer Hours’, ‘More Workout Classes’, ‘Other Exercise Opportunities’, ‘More Marketing’. Within the undergraduate sample, Black undergraduate students rated ‘Longer Hours’, ‘More Workout Classes’, ‘More Marketing’, and ‘Other Exercise Opportunities’ as their most common cues to action responses, while White undergraduate students rated ‘Longer Hours’, ‘More Equipment’, ‘Reduced Cost’, and ‘Other Exercise Opportunities’ as their most common cues to action responses.

Discussion (Slide 7)

I want to share some of the suggestions made by Black undergraduate students in the study when asked for ideas to help to initiate, improve, or sustain Black undergraduate student's physical activity participation. As a reminder, Black undergraduate students' top four responses include ‘Longer Hours’, ‘More Workout Classes’, ‘More Marketing’, and ‘More Exercise Opportunities.’ Longer hour responses include examples such as “Have a 24-hour schedule” and “Open earlier and close later.” Longer hours create a greater availability for students to be physically active and may work best to extend hours closer to midnight during the weekdays and on Sundays. Longer hours could be added two days a week on a trial basis to see how well they are used. And students could also be surveyed to see what days would be best to stay open longer. Lastly, possibly offer some later activities or special events might help get people to the Recreation Center during the extended hours.

Discussion (Slide 8)

More workout classes responses include examples such as “Maybe have some guided yoga sessions” and “Possibly offer class at a greater quantity where time in the center is integrated into the curriculum.” More workout classes was a high response especially for Black female undergraduate students, so the next thought should be what type of classes are more

interesting to that group. One option might be to offer activities that are culturally relevant, such as African dance or other variations similar to Latin dance classes such as Zumba. Another option would be to survey the students to see what types of activities they would like to engage in.

Discussion (Slide 9)

More Marketing responses include examples such as “Advertising how it can help society in different ways” and “Advertise their fitness classes more.” Marketing strategies will be expanded later in the presentation.

Discussion (Slide 10)

More exercise opportunities responses include “Host more fitness events” and “More muscle recovery or rehabilitation options.” More exercise opportunities are outside of the group fitness class realm and feature special events or alternative activities not typically created within the services. Some examples could include larger events such as a dance class in a basketball court rather than a group fitness studio and an outdoor fun run such as a ‘Color Me Rad’ run.

Discussion (Slide 11)

I have included additional responses which are based on my professional expertise. One response includes “Maybe create a small extension of the center closer to campus.” Since the recreation center is on the edge of campus and being featured on the newer portion of campus, it’s a further distance away from the center of campus which includes the student center. The last response stated, “I think by having a program for people who don’t know what to do in the gym. It could really motivate a lot of people to go to the gym and feel more comfortable.” This is similar to an onboarding or fitness equipment/workout orientation for students. Giving resources

to increase a student's competence of exercising could help improve the likelihood of exercise. Even though these suggestions don't guarantee that physical activity participation will increase, it is best to listen to your consumers, that is, ask the students' frequently what they would like to see as additional activities.

Interactive Activity (Slide 12)

Do any of you have ways you can see the findings being translated to your services? I want you to break in to small groups based on your specific program area. For example, the fitness program area professional staff will form a group. I want each group to come up with one idea for implementing some of the findings. I'm giving everyone five minutes to come up with an idea, then we will report to the entire professional staff.

Implications (Slide 13)

This research displayed that students who did not meet physical activity guidelines for adults saw physical activity as being less beneficial than students who did meet physical activity guidelines for adults. In addition, a larger percentage of White female students met physical activity guidelines for active adults more than Black female students. One suggestion for implementing changes based on this work and other research would be to learn more from the students through the usage of focus groups and interviews. The focus group or interviews should contain students who are not physically active and Black female students to understand their wants and needs in physical activity opportunities within University Recreation. Within the focus group or interviews, ask students about their current student participation levels, and activity interest and cues to action of all University Recreation program areas (fitness, outdoor recreation, informal recreation, intramurals, sport clubs, wellness, and aquatics). I propose building a connection with faculty within the University, so you could assess their classroom and

ask students who would be willing to participate on a focus group or interview to discuss their wants, needs, desires, and challenges within University Recreation. I propose to perform the needed outreach to have the face-to-face with students which could lead to ideas from students who currently do not utilize your services. The mindset should not be 'If I build it, then they will come.' You need to consider how to connect the value of your services to these students.

Next, based on the current literature, it is suggested University Recreation create relatable hiring practices such as hiring students in student leadership positions who have a similar appearance and experience of students who have the ability to participate in the same services. Even though this study did not identify as a cues to action, other studies have identified representation and relatability of staff to patrons in University Recreation services as valuable for the patrons to connect with the staff or experience. In the area of outdoor recreation for Black undergraduate students, a research study found that the most stated socialization barrier from the students of color focus group was a desire to be with their own social group. One student stated that they did not want to be the only black person in the group, especially if it's with the school and you're signing up by yourself. The hiring practicing to influence representation of people that you want to target could provide the marketing and relatedness a student needs to engage in physical activities.

Lastly, in this research, some students stated incentives would be a cue to action to initiate, increase, or sustain their physical activity participation. Based on this research, it is suggested to offer incentives such as a reduction in student health/counseling insurance cost for time spent engaging in physical activity due to the similarities in car insurance cost reduction with safe driving and employee health insurance cost reduction with no cigarette smoking. In addition, incentives could come in the form of reduced cost for some of the programming that

has fees such as guest fees or personal training or free gear for reaching a certain number of facility visits.

Questions (Slide 14)

These recommendations can help the professionals to provide better and more equitable services within University Recreation. I would like to spend the last few minutes discussing your thoughts about this and any other ideas you may have such as things you may have seen in your experience. Do you have any thoughts pertaining to this presentation? Are there additional opportunities to focus programming on Black students? Do you have any questions?

CHAPTER III: ACTION PLAN

The plan for dissemination is to develop a presentation of findings and recommendations to University Recreation professionals. Efforts to translate and present the findings to University Recreation are crucial to increase the willingness to support improved strategies. As a result, the findings of this research have short-term and long-term outreach opportunities toward University Recreation professionals. Below is the translation of ideas on the short-term and long-term timeframe.

Short-Term Plan

The initial sharing of my research findings will be through a presentation to the University Recreation center at the institution where the research was conducted. The intention of the presentation would be to share what the students said so this information can be used to adjust programming to match the students' perception. I could then expand the reach of my findings to potentially benefit other recreation centers at the recreation departments at the many colleges and universities in the North Carolina Research Triangle and North Carolina Piedmont Triad area. The North Carolina Research Triangle and North Carolina Piedmont Triad contain a multitude of colleges and universities with differing demographics of students. There are at least ten four-year colleges and universities which contain a University Recreation department between the North Carolina Research Triangle and North Carolina Piedmont Triad. Within these colleges and universities, at least two are Historically Black Colleges and Universities, one is almost equally divisible between White students and minority students, and the others are Predominantly White Institutions. I will present the significant data for undergraduate student's perceived benefits and perceived barriers to the University Recreation departments. In addition,

recommendations will be formed and presented for University Recreation programming through the commonalities of cues to action for physical activity responses.

In addition to sharing the work with the recreation centers, further efforts would be made to provide support to increase physical activity participation. I would share my research with the Kinesiology students at the university so they can use the information as they continue through their classes to consider how to increase Black student's physical activity participation. Furthermore, I would propose for the Kinesiology student club to work together with the Recreation center to increase Black student's physical activity participation through opportunities such as volunteering to help with actual class offerings, marketing, and other tasks. Lastly, efforts would be made to assist in the implementation of programs/services such as helping to develop ideas into practice and providing support in training student staff in programs and class opportunities.

Long-Term Plan

My dissertation findings and recommendations will be presented to University Recreation professionals through outlets such as local, state, regional, and national NIRSA conferences. First, findings and recommendations for University Recreation programming will be presented through University Recreation conferences such as 'North Carolina NIRSA State Workshop' (Fall), 'NIRSA Region 2 Conference' (Fall), and 'NIRSA Annual Conference and Campus Recreation & Wellness Expo' (Spring). These NIRSA conferences attract four-year institution University Recreation professionals and students pursuing a job in promoting health and wellness in the higher administration setting. The NIRSA Annual Conference and Campus Recreation & Wellness Expo is a national conference and provides attendees with educational presentation sessions, panel discussions, and poster presentation opportunities. This conference

focuses on a multitude of program areas within University Recreation such as intramural sports, fitness, club sports, aquatics, etc. Within these opportunities, topics are focused to enhance management, applications, strategies, and practices. There is a call for educational sessions, which include practical strategies to prioritize equity, diversity, and inclusion and challenges attendees to reimagine conventional approaches to program design and implementation to meet the needs of changing student demographics.

Second, another conference titled ‘Southeast Collegiate Fitness Expo’ also attracts four-year institution University Recreation professionals and students pursuing a tenure in promoting physical activity in higher administration. Similar to the NIRSA Annual Conference and Campus Recreation & Wellness Expo, the Southeast Collegiate Fitness Expo would allow for educational presentation sessions and panel discussion opportunities given to University Recreation professionals and students. This spring conference focuses on the fitness program area within University Recreation and topics are focused on enhancing practices and applications.

Thirdly, this information can be presented at other conferences such as the ACSM Annual Meeting and World’s Congresses. This summer conference attracts professionals within the medical, health, and physical activity fields. This conference focuses on a multitude of categories such as healthy equity, physical activity/health promotions interventions, and professional development/organizational information. Within these opportunities, topics are focused to enhance management, applications, strategies, and practices. This presentation would include data about Black college aged individuals data. The presentation would come in the form of an education presentation session featured under the ‘Health Equity’ presentation topic.

These short and long-term plans will allow me to share the findings of this work with individuals in positions to potentially increase physical activity participation of undergraduate

students, particularly Black students. As well as, allow me to continue to explore this work so that I can learn more and find additional ways to enhance University Recreation participation.

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APPENDIX A: QUESTIONNAIRES

CONSENT TO ACT AS A HUMAN PARTICIPANT

Project Title: Disparities amongst Black and White undergraduate students' perceived benefits, perceived barriers, and cues to action

Principal Investigator and Faculty Advisor: Marcus Thompson and Dr. Ben Dyson

Participant's Name:

What are some general things you should know about research studies?

You are being asked to take part in a research study. Your participation in the study is voluntary. You may choose not to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. There may not be any direct benefit to you for being in the research study. There also may be risks to being in research studies. If you choose not to be in the study or leave the study before it is done, it will not affect your relationship with the researcher or the University of North Carolina at Greensboro. Details about this study are discussed in this consent form. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. If you have any questions about this study at any time, you should ask the researchers named in this consent form. Their contact information is below.

What is the study about?

This is a research project. This study is intended to examine perceived benefits, perceived barriers, and cues to action for physical activity. Your participation is voluntary.

Why are you asking me?

You are a student enrolled in a course within the Minerva Academic Curriculum

What will you ask me to do if I agree to be in the study?

Complete the following surveys which may take around 15-20 minutes

What are the risks to me?

The Institutional Review Board at the University of North Carolina at Greensboro has determined that participation in this study poses minimal risk to participants. If you have questions, want more information or have suggestions, please contact (Marcus Thompson – mdthomp2@uncg.edu AND Ben Dyson bpdyson@uncg.edu)

If you have any concerns about your rights, how you are being treated, concerns or complaints about this project or benefits or risks associated with being in this study please contact the Office of Research Integrity at UNCG toll-free at (855)-251-2351.

Are there any benefits to society as a result of me taking part in this research?

This research will serve as a blueprint for University Recreation professionals

Are there any benefits to *me* for taking part in this research study?

There are no direct benefits to participants in this study.

Will I get paid for being in the study? Will it cost me anything?

There are no costs to you, or payments made for participating in this study.

How will you keep my information confidential?

All information obtained in this study is strictly confidential unless disclosure is required by law and participants will not be identified by name when data are disseminated.

What if I want to leave the study?

“You have the right to refuse to participate or to withdraw at any time, without penalty. If you do withdraw, it will not affect you in any way. If you choose to withdraw, you may request that any of your data which has been collected be destroyed unless it is in a de-identifiable state. The investigators also have the right to stop your participation at any time. This could be because you have had an unexpected reaction, or have failed to follow instructions, or because the entire study has been stopped.”

What about new information/changes in the study?

If significant new information relating to the study becomes available which may relate to your willingness to continue to participate, this information will be provided to you.

Voluntary Consent by Participant:

With this consent form/completing this survey, you are agreeing that you read, or it has been read to you, and you fully understand the contents of this document and are openly willing consent to take part in this study. All of your questions concerning this study have been answered. You are agreeing that you are 18 years of age or older and are agreeing to participate, in this study described to you by Marcus Thompson

Demographic Information
Select One or Fill in the Blank

1. Sex Assigned at Birth (Male / Female)
2. Race (White / Black / Other _____)
3. Year of Study (Freshmen / Sophomore / Junior / Senior / Graduate)
4. Student Status (Full-Time / Part-Time)
5. Are you a Kinesiology Degree-Seeking Student? (Yes / No)
6. Are you a Collegiate Student Athlete? (Yes / No)
7. What is your Age? _____
8. What is your Degree Program? _____

American College Health Association-National College Health Assessment III (Physical Activity Questionnaire)
Fill in the Blank

1. In the last seven days, on how many days did you do exercises to strengthen or tone your muscles? Examples: push ups, sit ups, or weightlifting/training
_____ Days
2. In the last seven days, how many (total) minutes did you spend doing vigorous physical activity? Examples: running, swimming laps, or hiking
_____ Total Minutes
3. In the last seven days, how many (total) minutes did you spend doing moderate physical activity? Examples: brisk walking, dancing, or household chores
_____ Total Minutes

Cues to Action for Physical Activity Participation
Fill in the Blank

What could University Recreation/Fitness Center do to initiate, increase, or sustain your physical activity participation?

EXERCISE BENEFITS/BARRIERS SCALE

DIRECTIONS: Below are statements that relate to ideas about exercise. Please indicate the degree to which you agree or disagree with the statements by circling SA for strongly agree, A for agree, D for disagree, or SD for strongly disagree.

	Strongly	Agre	Disagree	Strongly Disagree
1. I enjoy exercise.	SA	A	D	SD
2. Exercise decreases feelings of stress and tension for me.	SA	A	D	SD
3. Exercise improves my mental health.	SA	A	D	SD
4. Exercising takes too much of my time.	SA	A	D	SD
5. I will prevent heart attacks by exercising.	SA	A	D	SD
6. Exercise tires me.	SA	A	D	SD
7. Exercise increases my muscle strength.	SA	A	D	SD
8. Exercise gives me a sense of personal accomplishment.	SA	A	D	SD
9. Places for me to exercise are too far away.	SA	A	D	SD
10. Exercising makes me feel relaxed.	SA	A	D	SD
11. Exercising lets me have contact with friends and persons I enjoy.	SA	A	D	SD
12. I am too embarrassed to exercise.	SA	A	D	SD
13. Exercising will keep me from having high blood pressure.	SA	A	D	SD
14. It costs too much to exercise.	SA	A	D	SD
15. Exercising increases my level of physical fitness.	SA	A	D	SD
16. Exercise facilities do not have convenient schedules for me.	SA	A	D	SD
17. My muscle tone is improved with exercise.	SA	A	D	SD
18. Exercising improves functioning of my cardiovascular system.	SA	A	D	SD
19. I am fatigued by exercise.	SA	A	D	SD
20. I have improved feelings of well being from exercise.	SA	A	D	SD
21. My spouse (or significant other) does not encourage exercising.	SA	A	D	SD

	Strongly	Agre	Disagre	Strongly
	SA	A	D	Disagree
22. Exercise increases my stamina.	SA	A	D	SD
23. Exercise improves my flexibility.	SA	A	D	SD
24. Exercise takes too much time from family relationships.	SA	A	D	SD
25. My disposition is improved with exercise.	SA	A	D	SD
26. Exercising helps me sleep better at night.	SA	A	D	SD
27. I will live longer if I exercise.	SA	A	D	SD
28. I think people in exercise clothes look funny.	SA	A	D	SD
29. Exercise helps me decrease fatigue.	SA	A	D	SD
30. Exercising is a good way for me to meet new people.	SA	A	D	SD
31. My physical endurance is improved by exercising.	SA	A	D	SD
32. Exercising improves my self-concept.	SA	A	D	SD
33. My family members do not encourage me to exercise.	SA	A	D	SD
34. Exercising increases my mental alertness.	SA	A	D	SD
35. Exercise allows me to carry out normal activities without	SA	A	D	SD
36. Exercise improves the quality of my work.	SA	A	D	SD
37. Exercise takes too much time from my family responsibilities.	SA	A	D	SD
38. Exercise is good entertainment for me.	SA	A	D	SD
39. Exercising increases my acceptance by others.	SA	A	D	SD
40. Exercise is hard work for me.	SA	A	D	SD
41. Exercise improves overall body functioning for me.	SA	A	D	SD
42. There are too few places for me to exercise.	SA	A	D	SD
43. Exercise improves the way my body looks.	SA	A	D	SD

□□K. Sechrist, S. Walker, N. Pender, 1985. Reproduction without authors' express written consent is not permitted. Permission is obtainable by

downloading the Exercise Benefits/Barriers Scale (EBBS) Information and Permission Letter from deepblue.lib.umich.edu. If additional information is needed, contact Dr. Karen Sechrist by e-mail: krsech@pacbell.net.

APPENDIX B: PROFESSOR RECRUITMENT EMAIL

My name is Marcus Thompson, and I'm currently a doctoral student within UNC-Greensboro's Department of Kinesiology working full-time at NC State University as a Lecturer within the Department of Health and Exercise Studies. For my dissertation titled 'Disparities amongst Black and White undergraduate student's perceived benefits, perceived barriers, and cues to action for physical activity participation', I'm seeking to identify disparities amongst Black and White undergraduate student's determinants for physical activity at four-year institutions. In addition, I'm seeking to develop recommendations for University Recreation programming to initiate, increase, or sustain Black and White undergraduate students' physical activity participation.

I'm interested in surveying students within required general education courses (Minerva Academic Curriculum) at UNC-Greensboro to get a wide variety of students with different majors, physical activity levels, etc. Your class meets this criteria for the targeted population. I would like to request permission to survey your Fall 2022 section, in-person, during the first week of classes (8/15-8/19). I will obtain my IRB approval by early Summer 2022. I will have 3 surveys (on-line and paper options) which would take students about 20 minutes to complete. I've attached the layout of the surveys to this email.

Please let me know if there is an opportunity and please inform me of the date and time which I can come to survey your students during the first week of classes (8/15-8/19).

APPENDIX C: IN-CLASS STUDENT SCRIPT

Hello everyone, my name is Marcus Thompson, and I'm a graduate student who is seeking to obtain a doctorate degree within Kinesiology at UNC-Greensboro. My dissertation is titled 'Disparities amongst Black and White undergraduate students perceived benefits, perceived barriers, and cues to action for physical activity.' I'm interested in examining determinants for physical activity amongst undergraduate students and develop recommendations for University Recreation programming. If you are interested in participating in the research, you will only need to fill out a few surveys and you are done with this task. If you are not interested in participating in the research, that is fine also. You will not be penalized for not participating in the research

APPENDIX D: POWERPOINT PRESENTATION

 Find your way here

Disparities amongst Black and White undergraduate students' perceived benefits, perceived barriers, and cues to action for physical activity

Presenter:
Marcus Thompson, NSCA-CSCS, ACSM-EP

 Find your way here

Objective

- Identify disparities amongst Black and White undergraduate student's determinants for physical activity at a four-year institution.
- Develop University Recreation recommendations to initiate, increase, or sustain Black undergraduate students' physical activity.





Find your way here

Purpose of Research

- Physical activity levels among undergraduate students continue to reflect a decreasing trend
 - Spring 2021 – 42% classified as 'Active'
 - Fall 2022 – 40% classified as 'Active'
- I wanted to see what factors influence physical activity in undergraduate students.



Find your way here

Results



Students meeting physical activity guidelines for adults



Male students meeting physical activity guidelines for adults



Female students meeting physical activity guidelines for adults



White students meeting physical activity guidelines for adults



Black students meeting physical activity guidelines for adults



Black/male students meeting physical activity guidelines for adults



White/male students meeting physical activity guidelines for adults



White/female students meeting physical activity guidelines for adults



Black/female students meeting physical activity guidelines for adults



Find your way here

Results

Black undergraduate students' perceived physical activity as being more of a benefit than a barrier

Students who met physical activity guidelines perceive physical activity as being more of a benefit than barrier

The same holds true whether they are Black or White



Find your way here

Results

	Longer Hours	More Workout Classes	More Marketing	More Exercise Opportunities
Black Student				
	Longer Hour	More Equipment	Reduce Cost	More Exercise Opportunities
White Student				



Find your way here

Result

Longer Hours



Find your way here

Discussion

More Workout Classes





Find your way here

Discussion

More Marketing



"Advertising how it can help society in different ways"

"Advertise their fitness classes more"



Find your way here

Discussion

More Exercise Opportunities



"Host more fitness events"

"More muscle recovery or rehabilitation options"



Find your way here

Discussion

Other Ideas



"Maybe create a small extension of the center closer to campus."

"I think by having a program for people who don't know what to do in the gym, it could really motivate a lot of people to go to the gym and feel more comfortable."



Find your way here

Interactive Activity

Do any of you have ways you can see the findings being translated to your services?

Let's think of ways to incorporate some of the data. Break into small groups based on your specific program area. Create one idea to implement some of the findings.



Find your way here

Implications

Interview students who are not physically active and Black female students

Hire students in student leadership positions who have a similar appearance and experience of students who have the ability to participate in the same services

Offer incentives such as a reduction in student health/counseling insurance cost for time spent engaging in physical activity



Find your way here

Questions

- Do you have any thoughts pertaining to this presentation?
- Are there additional opportunities to focus programming on Black students?
- Do you have any questions?

Contact Information: Marcus Thompson, mdthomp2@uncg.edu