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Perceptions and Motivation toward Water Safety and Aquatic Activities in College Students

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Perceptions and Motivation toward Water Safety and Aquatic Activities in College Students

Cover Page Footnote

The authors want to acknowledge the aquatic departments at each college and university level, coaches, administrators, and the college students who dedicate their time and efforts to learning how to swim.

Abstract

As individuals reach adulthood there is a substantial reduction of participation in physical activities. Quality instruction in various physical activities, more specifically aquatics, are beneficial to an individual's health and career. This current study examined college student's perceptions and motivations towards the impact of aquatic instruction and water safety skills. Participants included 265 college students between the ages of 19 and 30 years old (n = 147 males, n = 118 females), enrolled in aquatic-related courses at two Historically Black Colleges and Universities (HBCUs). Researchers used a mixed-method approach where the findings indicated that 72% of the participants reported the ability to swim, tread water, and float, 78% would enroll in additional aquatic classes, and 82% are willing to learn to swim. Quality aquatic instruction given at HBCUs can help the process of closing the gap of disparities among African Americans and their involvement in aquatics.

Keywords: wellness, aquatic activities, physical activity, water safety

Introduction

Fear and stereotypes of various groups of people can potentially have lasting impacts on how one lives their everyday life. This can include how people develop their lifestyles, eating habits, socialization skills, as well as participation and engagement in leisure and physical activities. According to the Centers for Disease and Control (CDC, 2015), many of these fears and stereotypes have been found to impact people of color and ethnic minority groups significantly. In the area of aquatics, there are vast disparities among African Americans and Hispanic's abilities to swim when compared to whites. The rate at which African Americans are drowning is significantly higher than whites of all ages. The drowning rates among African American children aged 5-19 that occur in swimming pools are 5.5 times higher than for white children (CDC, 2015). The most significant disparity occurs among children 11-12-years old, with African Americans drowning in swimming pools at a percentage ten times higher than their white counterparts (CDC, 2015).

Studies have shown that many obstacles have had an impact on African Americans learning how to swim, including fear, motivation, accessibility, social constraints, and systematic racism (Ito, 2014; Irwin, Pharr, & Irwin, 2015; Waller & Norwood, 2011). Many of these barriers lead to excuses for not knowing how to swim, subsequently leading to the high occurrence of drowning in the African American community and limited exposure and education in the area of aquatics and water safety. Many may not be aware of the overwhelming benefits of swimming, which include improved fitness, flexibility, strength, and endurance. A new study released by the British Journal of Sport Medicine (BJSM) showed that

the exclusive benefits of swimming to the health and wellbeing of all people, particularly those with long term health conditions, include exercise, higher life expectancy, and mental and physical fitness. This same study further established that participation in swimming lessons could help children to enhance physical, cognitive, and social skills earlier than those who do not participate in swim lessons. Accordingly, the benefits of this activity are not just for children, swimming also delivers a multitude of mental and physical supports for grown-ups. Hetzler (2019) further indicates that Adults who engage in swimming are healthier and happier than people who live a sedentary lifestyle. Participation in swimming and other aquatics activities can also improve moods and reduce bouts of depression (Pharr, Irwin, & Irwin, 2014).

Swimming is the second favorite sport in the United States and kids love to swim at the pool or the beach (Hertzler, 2019). Although, the need for effective aquatic instruction and water safety programming is evident. Swimming incidences can be detrimental to the people, cities, and government regarding perceived value, instruction, and cost as they recover from the severe and fatal accidents that occur. For example, in one incident that resulted in the drowning death of an adolescent based on the negligence of four county lifeguards, Los Angeles County settled with the family for about \$3 million. According to another drowning report by City News Service (Sklar, 2016) about an adolescent boy pulled from the pool at Jesse Owens Park in Los Angeles after being underwater for more than five minutes, the parents claimed that the four lifeguards on duty were careless in giving their son life-saving attention which led to his death (Goldman, 2016).

The need for effective aquatic instruction and water safety programming is evident. Therefore, focusing on dismantling barriers, disregarding the stereotypes, and increasing motivation and perceived value of participation and engagement in aquatic activities is vital. And, although the USA Swimming Foundation (2017) announced a 5-10 percent (%) increase in swimming ability among U.S. children, there is still effort to be done.

According to the USA Swimming Foundation (2017), as many as a stunning 70 % of black society cannot swim. Moreover, 64% of African-American children, 45% of Hispanic/Latino children, and 40% of Caucasian children had either no swimming ability or low swimming ability (USA Swimming Foundation, 2017). Furthermore, according to Southgate (2012), about 40% of white children and 60% of Hispanic children do not know how to swim or lack swim skills.

These statistics are also impacted by perception. Parents and caregivers who self-identified as Black or African American shared attitudes and values that impacted their child's swimming participation (Pharr, Irwin, & Irwin, 2014).

Parental views on aquatics education and water safety are the key to children becoming skilled swimmers and active participants of various aquatic activities into their adulthood (Pharr, Irwin, & Irwin, 2014).

Although limited research exists on the expansion of young adults swimming skills, research by Glichrist, Sacks, and Branche (2000) found that 37% of adults in the US were not able to swim the distance of the swimming pool, with more significant racial/ethnic differences among adults. White adults had the highest swimming ability level with only 32% of White adults having poor swimming ability. Sixty-two percent of African American adults were inadequate in their swimming ability.

Colleges and Universities have the potential to offer great opportunities for students and the community to become involved in aquatics instruction and water safety programming. These institutions of higher learning often require students to complete aquatics courses (elementary swimming, intermediate swimming, lifeguarding, etc.) for graduation.

Aquatic activity is a setting where young adults of varying abilities can gain more knowledge and experience as active participants in aquatics. Popular recreational activities that youth participate are kayaking, snorkeling, water aerobics, and water sports (Beale, 2016). Quality instruction in aquatic activities can potentially lead to increased value and favorable perception of water safety and participation in aquatic activities among college students. It is necessary to emphasize the crucial importance of youth participation and engagement in physical activities that have a direct benefit to their overall quality of life.

In a study by Joseph (2014) about college students' and improved quality of life through physical activity, 590 undergraduate students were surveyed. Physical activities were assessed with the Godin Leisure-Time Exercise Questionnaire, and the Satisfaction was assessed using the Quality Of Life (QOL) Scale. The results of this study indicated that with mediators of exercise self-efficacy and physical self-esteem, a positive effect emerged as integral components in the relationship between physical activities and quality of the college student's life (Joseph, 2014). According to the American College Health Association, some of the health benefits of college exercise ensure physical and mental health. It boosts the immune system and exercise during college promotes proper sugar levels in the blood. (American College Health Association, 2007). Also, a study by Budd showed that college students do not take into consideration the seriousness of their health behaviors (Budd & Preston, 2001). Exercise is another aspect that is important to a person's health. The health benefits of exercise are essential for enhancing physical activity and extending healthy life. Being active and doing

regular bodily exercises can prevent major chronic diseases such as heart problems, diabetes, high blood pressure, back pain, osteoporosis, joint pains, obesity, and other diseases, (Huang, T., et., 2003). According to Beale (2016), aquatic knowledge and skills not only improve an individual's physical fitness but forms a framework for a generation of physical activity and wellness. Support for participation in aquatic physical activities among adults as well as children can decrease drowning rates, improve cardio-respiratory and muscular fitness, and improve mental health and psychological security (U.S. Department of Health and Human Services, 2008; Beale, 2012; Beale & Lynn, 2011).

Traditional college and university students are on a journey to developing their lives, attempting to be the best individual that they can be. The drive of this study was to advance an understanding of college students' perceptions and motivations towards the importance of learning water safety skills and motivation to participate and engage in various aquatic activities. Quality aquatic instruction given at HBCUs can help the progress in closing the gap of disparities among African Americans and their involvement in aquatic activities (Waller & Norwood, 2011).

Method

The study followed a mix-method approach. This approach was used to collect data because it encompasses the utility of qualitative and quantitative techniques. The qualitative procedure adds depth to the quantitative results, therefore, strengthening the overall study outcomes. The researchers' used a survey, as well as interviewed study participants to gather richer, more detailed information about the students' perceptions and motivations towards the impact of aquatic instruction and water safety skills. The quantitative data was collected using closed-ended, forced-choice items that were analyzed using SPSS, version 25. Qualitative data, on the other hand, was accumulated using open-ended questions, which allowed the subjective "voice" of the partakers to be heard.

Participants

The study included 265 undergraduate college students between the ages of 19 and 30 years old (n = 147 males, n = 118 females), from physical activity courses at two HBCUs—Historically Black Colleges and Universities—in the southern region of the United States. More specifically, the study participants were recruited from aquatically related courses (i.e., beginning swimming, intermediate swimming, aquatics, and fitness) were required to enroll in, to learn the skills necessary to be safe, proficient swimmers.

Procedures

All participants (265) completed the Water Safety and Aquatic Activities Survey, while only 51 students (26 females and 25 males) were randomly selected to participate in the face-to-face structured interview. The survey was distributed through an internet-survey building program, as well as in paper-pencil format. The interview portion of the study was conducted face-to-face and consisted of ten open-ended questions about the participant's perceptions and motivations toward competing in the aquatic courses, as well as participation in various aquatic activities outside of the classroom. All participants agreed and signed a consent form to participate in the study.

Analysis

SPSS was used to analyze the survey results, and the interviews were analyzed using a thematic analysis. The thematic analysis consisted of created codes which were used to organize the data, formulate patterns across the different interviews, develop themes, and define and label themes that the data revealed.

Results

The study findings provided valuable information that gave insight into the potential outcomes that can result from taking aquatic-related courses. Results from the survey revealed seventy-two percent (72%) of the research subjects were able to swim, tread water, and float and 28% of the students could not swim, tread water, and float (see Figure 1).

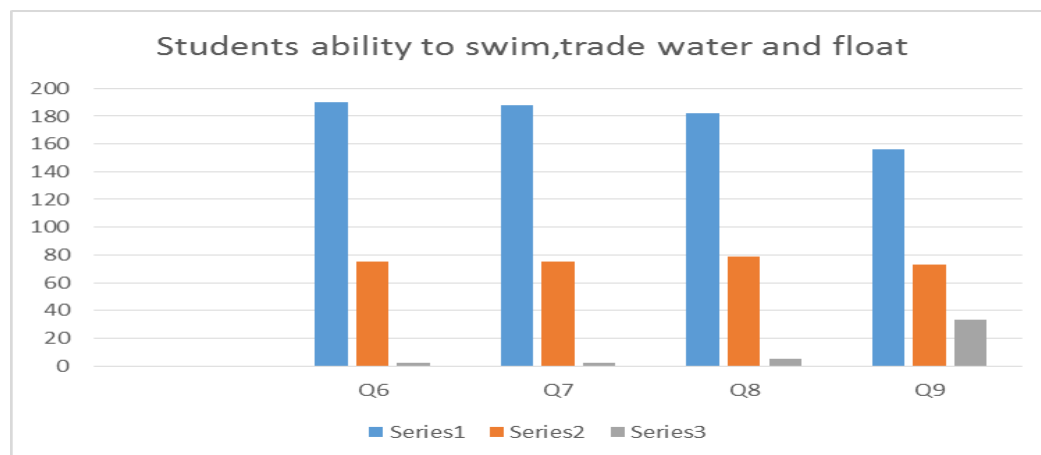


Figure 1: 72% of the students were able to swim, tread water, and float, 28% of the students could not swim, tread water, and float.

Seventy-eight percent (78%) of the participants agreed to learn to swim and enrolled in aquatic classes. (see Figure 2).

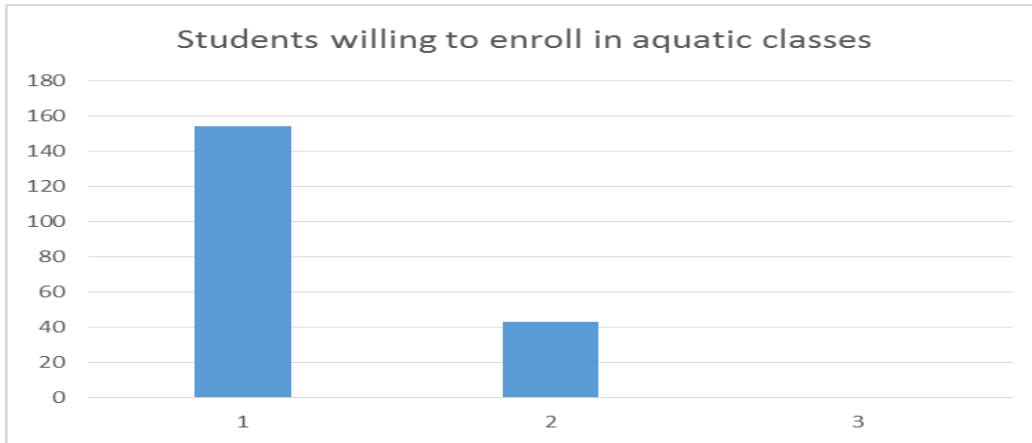


Figure 2: 78% of the students wanted swimming lessons and enrolled in aquatic classes.

Eighty-two percent (82%) of the students were willing to learn to swim. Seventy-seven percent (77%) of the participants agreed to enroll in an aquatic class with others within the same age group.

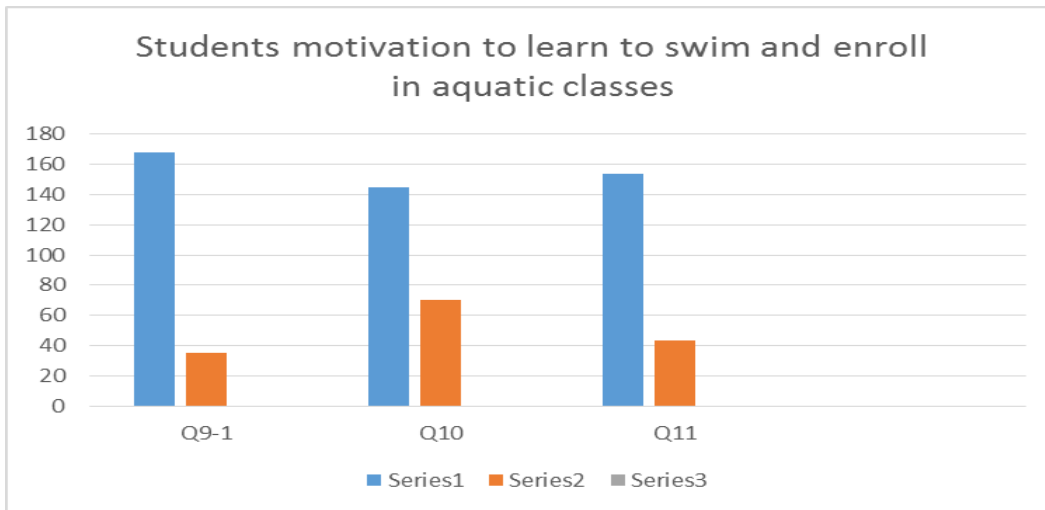


Figure 3: 82% of the participants agreed to learn to swim and 77% enrolled in aquatic classes.

Seventy-one percent (71%) of the students could swim in water over their head (6ft or deeper), 28% of the students could not swim in a water-level over their head (6ft or more in-depth), and 1% of the students did not know if they could swim in a water-level over their head (see Figure 4).

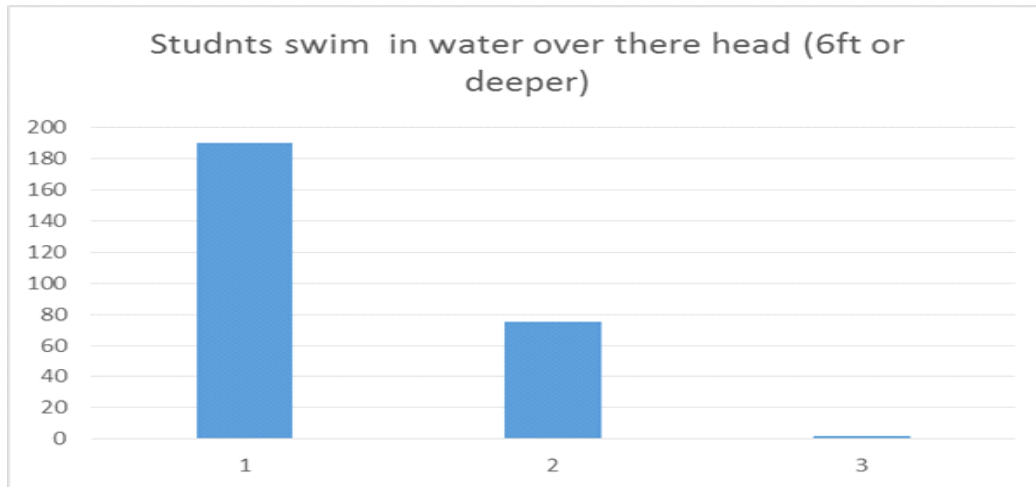


Figure 4: 71% of the participants can swim in water over there head (6ft or deeper), 28% of the subjects couldn't swim in a Water- level over there head (6ft or more in-depth) and 1% of the students don't know if they can swim in a water-level over there head.

Sixty-one percent (61%) of the research subjects felt they could swim 25 meters without any problem, 27% of the students said they could not swim 25 meters without any problem, and 12% of the participants were not sure whether they could complete a 25-meter swim without any difficulty.

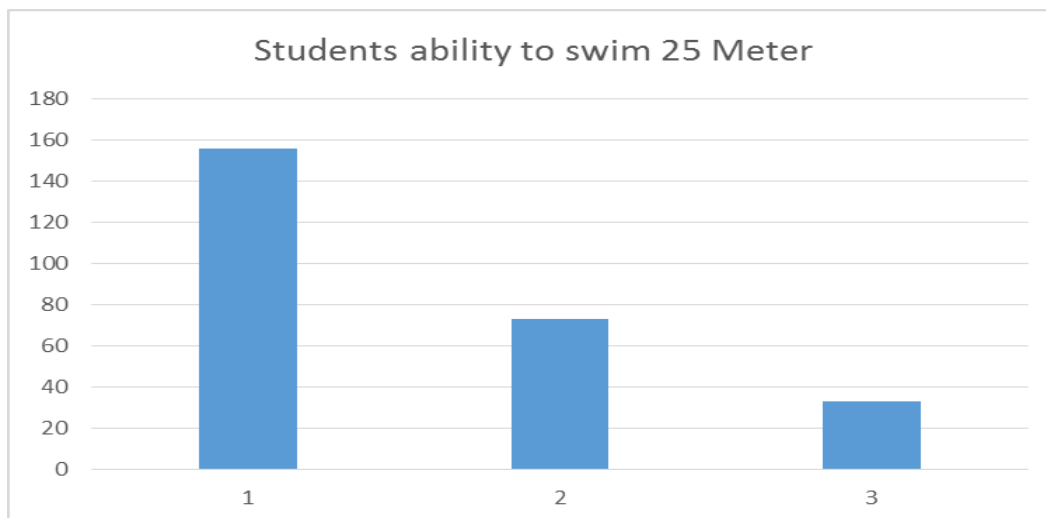


Figure 5: 71% of the participants can swim in water over there head (6ft or deeper), 28% of the subjects couldn't swim in a Water- level over there head (6ft or more in-depth) and 1% of the students don't know if they can swim in a water-level over there head.

Further qualitative analysis using interview data showed a total of 51 students (26 females and 25 males) participated in the one-on-one semi-structured interviews. Many of the participants who were not proficient swimmers and were cautious about being in water (deep water or oceans) did not have any reservations about being in a swimming pool. This could indicate that there is an openness for college-age students and adults to be enthusiastic about learning the required skills to be safe, proficient swimmers.

Many students stated that they enjoyed and valued the aquatic courses and through their responses seemed to understand the significance of water safety, not only for themselves but for their friends, family, and community. For example, when asked do you think that aquatic class will make a difference in your life and your future 20 of the 26 females (76%) indicated,

“Yes, I think that my aquatic class will make a difference in my life and my future because I plan to have children later on in life and I would enjoy teaching them personally myself with the professional and proper technique if I was to become a water safety instructor and or lifeguard.”

Sixty percent (or 15 of 25 males) stated,

“It was a required course for me. Although it was a required course when I found out that I was taking a swim class, I was kind of surprised and excited at the same time because I never knew that a swim class could be offered in a school and also because I have not been in a pool in a while.”

Only one participant stated that enrolling in aquatics classes would not affect their future. Some participants indicated that they would come away from the course with more knowledge about aquatics. When asked what motivated you to enroll in an aquatic course 27% of female participants and 1% of males indicated that,

“It will allow me to be more self-assured in the water in case of an emergency and it will allow me to promote it to my siblings.” While 16% of all the participants stated: *“Yes, I do because I have learned things that would be great to incorporate into my family when participating in the pool and or water activities.”*

When asked about reasons to engage in aquatic class, some participants (12% females and 1% male) wanted to apply their skills in aquatics to acquire employment, becoming lifeguards and swim instructors. Regarding the question of what was learned from attending aquatic class, 12% of females also noted,

“I have learned proper pool safety rules and the importance of them, but also how to have fun. For recreational purposes, I would participate in aquatic

activities and feel comfortable doing so because I know that it is about having fun and exercising.”

Moreover, all students who participated in the interview indicated that they participated in an aquatic class,

“To become aware of useful techniques that can be used when swimming. Also, since I want to be able to teach other individuals, especially African Americans, how to swim since there is a 7/10 percentage of AA not being able to swim, resulting in drowning.”

The motivation for enrolling in the aquatic classes varied on the intrinsic and extrinsic scale. Some participants indicated that they enrolled in the course because they “just loved swimming” and some enrolled to fulfill the requirement for graduation. On answering whether students liked their teacher and whether the instructor motivated learning equally among study participants, 13% (4 of 51) stated,

“Yes, I do feel motivated. I would tell anybody to take this class. It is beneficial, and it teaches you a lot, not just about swimming but only about-facing fears and things that goals that you want to accomplish in life.”

In responding to this same question, 9% of females noted,

“I do feel very motivated. The coach I had for this class was very inspiring and uplifting, and she was very nurturing. She worked with me a lot. Even though she could not give me the one-on-one time that I needed, she still was able to give me pointers and tips that helped me to swim better, so yes.”

All males interviewed about asked taking the professor’s class stated.

“I would tell my friend or any other student that my instructor is beneficial, easy to dialog with and teaches in a way you will understand. The best thing about the class is the skill test because you get to learn the different activities hands on. There is not anything I do not look forward to, because he keeps the class interesting.”

Also, all the females indicated,

“Yes, I like my instructor. He is very organized and a great teacher when it comes to teaching new information. I say this because he made an effort to talk to each student in the class on what they were good at and if they needed help, he would make time to teach them so that everyone was on the same page. During class, my instructor would also say motivating things such as a good job, giving us pointers, etc.”

Whereas, 80% of males noted,

“At first I did not care about swimming, but after taking the Aquatic class, I am considering participating more in Aquatics, especially for the different activities that come along with it.”

Most participants mentioned the fitness and health benefits of swimming and that learning the content in these courses would motivate them to participate and engage in other aquatic activities, like kayaking and jet skiing. Several students also specified that they enjoyed their instructors and appreciated that their instructors were knowledgeable and nurturing. They believed that this was important in the learning process, motivation, and safety in the class. Participants also gave suggestions on how the courses could be improved. Participants suggested that class times could be longer, and they could meet more frequently, increasing activity and the opportunity to develop more skills and technique. Overall, the results indicated the significance of aquatic and water safety courses on college campuses, as well as provided a rich understanding of college students' perceptions about- and motivation for water safety and water activities.

Discussion

The level of participation and engagement in physical activity among young Americans seems to be on a steady decline. Much of the adolescent and young adult population lives a sedentary lifestyle, which ultimately leads to them being overweight and obese (Centers for Disease Control, 2012). Nevertheless, the efforts to increase skill acquisition, participation and value in the importance of water safety and other aquatic activities among African Americans have slowly grown over the years (Ito, 2014; Hill & Cleven, 2005).

Organizations, such as USA Swimming have conducted research and outreach programs. According to the CDC (2014a), these efforts have been great in bridging the gap and disparities among African Americans in the area of aquatics. The research indicates that African Americans are disproportionately unskilled at swimming and the influences their potential participation and engagement in various aquatic activities. HBCUs and other entities that serve a vast majority of African Americans have an excellent opportunity to develop programming and instruction that will close the gap, increasing the number of African Americans who are proficient swimmers. College and university campuses are environments where much of the young adult population has a more significant opportunity to access exercise and fitness facilities, including natatoriums where aquatic programming is detained.

This recent study sought to understand the role of the motivation factor and perceptions towards the importance of learning water safety skills and motivation to participate and engage in various aquatic activities. As in studies previously conducted in physical education, students' top preferences of activities were among swimming. There were no significant changes in the demographics of the students who chose preferred swimming as a high activity to engage in (Ito, 2014; Hill & Cleven, 2005). As with the students in the related studies; the current study results demonstrated that participants would enjoy high levels of participation in swimming activities. Many of the participants were highly motivated to participate to gain fitness, water safety, employment opportunity, and more trust with the aquatic area; as well as, influence others to join, and enjoy swimming and other aquatics activities.

This enjoyment and urge to positively influence others around them about the possibilities in aquatics could potentially have profound impacts in reducing the disparities among African American in swimming. According to the CDC (2014b), African American children are 5.5 times more likely to drown than white children. The positive influence and imagery of young adults and college students on HBCU campuses can encourage youth in the surrounding communities to become competent swimmers who can actively participate in aquatic environments.

The increase of positive influence in African American communities could increase the flow of resources and opportunity for aquatics programming and activities (Ito, 2014). Participants had a genuine concern for their community, highlighting the fears and caution that many of the participants experienced in the African American community. For many participants, their experience in the courses brought about new skills and adventure that they wanted to continue throughout their adult lives. The study subjects provided great feedback about their instructors, indicating that they had high confidence in their instructors and that added more enthusiasm for the students to want to learn how to swim and participate in those different aquatic classes and events. The quality of instruction is vital to the safety and determination of the students in aquatics or water safety programming.

Lack of opportunity, educational resources, and exposure have caused many in the African American community to be disenfranchised from the benefits of swimming throughout their lives. For example, the majority of African American children attend institutions of learning that are not prepared with high-quality teaching, curriculum, and competition. If HBCUs were able to provide and maintain quality and consistent instruction and programming in aquatics and water safety to their students and their surrounding communities, there would be a potential possible significant increase in participation, education, and exposure to

aquatics activities that prevent the rate of drownings. As students explore the benefits of enrolling in aquatics courses, it will potentially give students more confidence in the swimming pool and open water area during leisure, competition, and emergencies. It will also encourage the promotion of participation among family, friends, and peers; as well as help them to be more willing and comfortable participating in aquatic activities outside of the class setting. Overall, learning proper swimming techniques would further encourage participation in other aquatic activities outside of the class such as water polo, water volleyball, diving, kayaking, canoeing, scuba diving, parasailing, and jet skiing.

Applications in Sport

Access and exposure to aquatics opportunities for African Americans youth and young adults as a recreational opportunity or career can be an option that helps them become more productive and prosperous members of the community. Aquatics can potentially be used as a springboard to satisfactory health, employment, and leisure opportunities. However, attracting African Americans to aquatics cannot be accomplished if recreation administrators and instructors do not try to communicate with them. Where feasible, African Americans and other ethnic groups should be provided with particular services or activities in aquatics or recreational programs. When necessary African Americans' needs should be met by guiding them into special programs designed to meet those needs. Those programs should enhance self-awareness, personalize the aquatic environment, and provide assistance in understanding feelings and attitudes toward others. These approaches can be used not only by administrators and instructors but by all personnel who interact with African Americans.

Since the needs of minorities may vary considerably, links also must be maintained between community agencies, families, and minority role models or mentors—minority individuals who are successful with expertise in the area of aquatics. In this way, referrals can be made when professional services are necessary. Some of the techniques that can be used are basic water safety and swimming instruction, counseling from peers, mentors, teachers, and parents, aquatic exercise therapy, conditioning and participation in clubs such as water polo clubs and sailing clubs. It may be suggested that more recreation administrators and aquatic program directors be more amenable to learning about various cultures and customs than persuade or encourage people to change their habits of living. It also is more helpful for African Americans to acculturate while retaining elements of their own culture rather than being assimilated into the host society by losing their ethnic identity.

Recreational and aquatic administrators/instructors should understand that developing positive self-esteem, feelings of belonging and a strong sense of

ownership in aquatic programs are part of the process of humanizing and personalizing the programs for African Americans. The United States is an ethnologically and culturally pluralistic nation, yet many North Americans do not know much about other cultures in America. The vast minority society that exists today makes it even more imperative to work with these groups and professionals in the area of physical education, recreation, and aquatics are in an ideal position to offer support.

Aquatic or recreational associations can reach minority and ethnic markets and improve its environment by providing financial and social resources to minority programs, including eliminating the perception that it is a hostile or racist environment by helping employees and -management to be aware of the problems confronting African Americans groups, by employing and training the African American community in personnel and management, and integrating special services for those who staff them into the mainstream of the associations. Also, publicizing the organization's obligation to minority groups' achievements through targeted financial assistance guarantees continuing support for categorically funded programs. Additionally, conducting and broadcasting needs assessment and research studies for area minority groups and improving opportunities for the African American populace reassures feelings of inclusion and representation of their culture in organizations related to aquatics. Minority groups, like all groups of people, feel more welcomed in organizations where they see members of their group in administrative and mentor roles.

Conclusions

Seventy percent (70%) of the research subjects in this current study were able to swim, tread water, and float, 78% agreed to learn to swim and enrolled in aquatic classes, and 82% are willing to learn to swim. The data indicated that the participants were intrigued about the possibility of mastering swimming and valued the importance of learning necessary aquatic skills, potentially increasing their participation in various aquatic activities. The study data also implied that although many of the participants may not have been proficient in the water, their desire to learn water safety skills and participate in aquatic activities, such as advanced swim lessons, lifeguarding, water polo, and kayaking would increase the likelihood of enrollment in swimming lessons or courses.

The access and exposure that African American students and surrounding communities can gain from excellent aquatic-related instruction can potentially benefit them throughout their adult lives. Enhancing current aquatics-related education, maintaining and establishing quality aquatic new programs at HBCUs and recreation facilities, marketing and promoting to at-risk communities, and establishing appropriate understandings of culture and customs with the

administration and surrounding communities can have long-lasting benefits among African Americans of all ages.

This study did not address the reasons why the participants did not like to swim or chose not to swim in pools. However, future iterations of this study or further research into these areas are recommended. Although participants may not have liked swimming in pools, they could have preferences for swimming in ponds, lakes, or the ocean. Additional research could also assess the fidelity of aquatic pedagogy and instructional quality at both the lower and higher education levels.

References

- American College Health Association (2007). American College Health Association-National College Health Assessment, (ACHA-NCHA).
- Beale, A., (2016). A Stroke in the right direction. *Journal of Physical Education, Recreation & Dance*, 87(5), 3-4. doi:10.1080/07303084.2016.1156991
- Major new study on health benefits of swimming released. (2017). *British Journal of Sports Medicine*. Retrieved June 16, 2019, from <https://blogs.bmj.com/bjbm/2017/06/23/major-new-study-health-benefits-swimming-released/>
- Budd, M., Preston, B., (2001) College student's attitudes and beliefs about the consequences of smoking: Development and normative scores of a new scale. *Journal of the American Academy of Nurse Practitioners* 13, 421-427.
- Centers for Disease Control and Prevention [CDC]. (2014a). *Web-based injury statistics query and reporting system*. Retrieved from <http://www.cdc.gov/injury/wisqars/fatal.html>
- Centers for Disease Control and Prevention [CDC]. (2014b). *Unintentional drowning: Get the facts*. Retrieved from <http://www.cdc.gov/HomeandRecreationalSafety/Water-Safety/waterinjuries-factsheet.html>
- Gilchrist, J., Sacks, J.J., & Branche, C.M. (2000). Self-reported swimming ability in US adults, 1994. *Public Health Reports*, 115(2-3), 110. PubMed.
- Goldman, S. (2016, August/September). *Family Reaches \$3M Settlement in Public Pool Death*. Retrieved May 13, 2019, from <https://www.athleticbusiness.com/civil-actions/family-reaches-3m-settlement-in-2013-pool-death.html>
- Huang, T., Harris, J., Lee, E., Nasir, N., Born, W., (2003) Assessing overweight, obesity, and physical activity in college students. *Journal of American College Health* 52, 83-86. doi.org/10.1080/07448480309595728
- Hill, G. M., Cleven, B. (2005). A comparison of students' choices of 9th-grade physical education activities by ethnicity. *The High School Journal*, Dec 2005/Jan 2006, 89, 16-23.

- Hetzler, L. (2019). Mental & Physical Benefits of Swimming. Retrieved June 16, 2019, from <https://www.livestrong.com/article/477375-mental-physical-benefits-of-swimming/>
- Irwin, C. C., Irwin, R. L., Ryan, T. D., & Drayer, J. (2009). Urban minority youth swimming inability in the United States and associated demographic characteristics: Toward a drowning prevention plan. *Injury Prevention, 15*, 234-239.
- Irwin, C. C., Pharr, J. R., & Irwin, R. (2015). Understanding factors that influence fear of drowning in children and adolescents. *International Journal of Aquatic Research and Education, 9*, 136-148. doi: 10.25035/ijare.09.02.05
- Ito, G. H. (2014). Barriers to swimming and water safety education for African Americans. *International Journal of Aquatics Research and Education, 8*, 240-257. doi: 10.25035/ijare.08.03.04
- Joseph, R. P., Royse, K. E., Benitez, T. J., & Pekmezi, D. W. (2014, March). Physical activity and quality of life among university students: Exploring self-efficacy, self-esteem, and affect as potential mediators. Retrieved June 16, 2019, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4049193/>
- Pharr, J. R., Irwin, C., & Irwin, R. (2014). Parental factors that influence swimming in children and adolescents. *International Journal of Aquatic Research and Education, 8*(4) 368-381. doi: <http://dx.doi.org/10.1123/ijare.2014-0041>
- Sklar, D. L. (2016). *Settlement alleging 4 lifeguards negligent in teen's pool death reached*. Retrieved May 13, 2019, from <https://mynews1a.com/crime/2016/08/16/settlement-alleging-4-lifeguards-negligent-in-teens-pool-death-reached/>
- Southgate, M. (2012). *Water damage*. Retrieved May 13, 2019, from <https://www.nytimes.com/2012/08/11/opinion/water-damage-more-blacks-lack-swimming-skills.html>
- Waller, S. & Norwood, D. M. (2011). What African Americans can do to bridge the swimming gap: A call to action. *International Journal of Aquatics Research and Education, 5*, 449-475. doi: 10.25035/ijare.05.04.10
- USA Swimming Foundation (2017). USA Swimming Foundation Announces 5-10 Percent Increase in Swimming Ability Among U.S. Children. Retrieved May 13, 2019, from <https://www.usaswimmingfoundation.org/utility/landing-pages/news/2017/05/25/usa-swimming-foundation-announces-5-10-percent-increase-in-swimming-ability-among-u.s.-children>