

Journal of Education and Recreation Patterns (JERP)

www.jerpatterns.com


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To cite this article:

Eubank, J.M. & Pegues, M.M. (2023). Resilience through Recreation: How College Students' Recreational Behavior at a Hispanic-serving Institution in New York City Mediated Negative Emotions after the First Year of the COVID-19 Pandemic. *Journal of Education and Recreation Patterns (JERP)*, 4 (1), 192-209. DOI: <https://doi.org/10.53016/jerp.v4i1.103>

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Resilience through Recreation: How College Students' Recreational Behavior at a Hispanic-serving Institution in New York City Mediated Negative Emotions after the First Year of the COVID-19 Pandemic

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ARTICLE INFORMATION

Original Research Paper

Received 14.03. 2023

Accepted 27.06. 2023

<https://jerpatterns.com>

June, 2023

Volume: 4, No: 1

Pages: 192-209

ABSTRACT

The well-being needs of college students have increased in recent years and were exacerbated by the COVID-19 pandemic, particularly among students of color living in urban environments such as New York City. This qualitative study explored how COVID-19 influenced recreational behavior of college students at a Hispanic-serving institution in New York City after the first year of the pandemic through the lens of the Social Determinants of Health. Findings indicated that participants experienced increased stress and anxiety due to the pandemic, barriers and influences on their recreational behavior, and how they experienced resilience through their recreational behavior. Higher education administrators could utilize these findings in providing an improved response to acute health crises such as the COVID-19 pandemic through additional support and outreach services to their students.

Keywords: COVID-19, Higher Education, Recreation, Student Affairs, Social Determinants of Health



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INTRODUCTION

In recent years, the mental health of college students has been of increasing concern (American College Health Association, 2020). Evidence has shown a strong relationship between recreation and resiliency, particularly in unique and stressful experiences (Borrega-Mouquinho et al., 2021; Carriedo et al., 2020; Jaureguizar et al., 2018; Roeh et al., 2020; Soria et al., 2022). Many facilities, services, and programs at higher education institutions exist to address the issue of mental health for college students and these services became even more crucial during the COVID-19 pandemic. Furthermore, health disparities, particularly the mental and physical health, of Black, Indigenous, and other people of color (BIPOC) in urban communities was further exacerbated by the COVID-19 pandemic (van Dorn et al., 2020). Young adults were also specifically identified as being at a higher risk of poor mental health (Stamatis et al., 2021) and BIPOC college students living in urban communities experienced even more inequalities than their White peers (Hoyt et al., 2021).

Recreation

Holba (2014) stated, “recreation is important to human existence because it provides a short diversion and breaks up monotonous moments that fill the day” (p. 183). The COVID-19 pandemic certainly contributed to an increase in monotonous moments through isolation and quarantine, particularly for college students. While recreational opportunities provided by higher education institutions through departments, such as campus recreation, have been shown to alleviate the negative outcomes associated with the stress that college students experience (Eubank & DeVita, 2021), the COVID-19 pandemic caused many higher education institutions to close their campuses and transition their classes and student support services to an online format (Bialek et al., 2020). These sudden closures also impacted the recreational behavior of college students because they no longer had access to the facilities and programs provided by their university. Even worse, the pandemic decreased outdoor recreational behaviors for those who live in an urban setting due to restrictive policies (i.e., social distancing and park closures) (Rice et al., 2020). Students who lived on campus were sent home to live with their parents or guardians, while others chose to live with close friends and relatives. While residing in temporary isolated circumstances, most college-aged individuals experienced a decline in recreation, or they were forced to change their daily routines (Arundell et al., 2022; Rice et al., 2020).

Furthermore, socio-economic status is also a determining factor on whether a student has access to recreational opportunities, meaning that BIPOC college students had less access to recreational facilities and programs during the pandemic (Oncescu & Loewen, 2020). Lack of access to recreation and have been associated with higher stress, anxiety, and depression (Soylu, 2021), resulting in a lack of stress relief (Browning et al., 2021). Symptoms reported included loneliness, decrease in academic performance, substance abuse, sadness, trouble sleeping, and weight-gain as well as lack of motivation and emotional self-regulation due to forced isolation (Browning et al., 2021; Stanton et al., 2020).

Resilience

Resilience has emerged as a protective factor that helps individuals adapt and cope during times of difficulty and uncertainty (Burt & Eubank, 2021; Ebersöhn et al., 2015; Elavsky & McAuley, 2005; Li et al., 2021). During an acute health crisis such as the COVID-19 pandemic, resiliency can contribute to an individual’s ability to combat negative emotions and reduce psychological distress (Bennett & Windle, 2015; Cazan & Tru, 2015; Spies & Seedat, 2014). Overwhelming evidence suggests that recreation, particularly recreation that involves physical exercise, contributes to resilience and individuals who continue recreational activities during times of isolation are highly resilient (Borrega-Mouquinho et al., 2021; Carriedo et al.,

2020; Jaureguizar et al., 2018; Roeh et al., 2020; Soria et al., 2022). Recreation can serve as a mediating factor to anxiety, stress, and depression for college students during the COVID-19 pandemic (Eubank & DeVita, 2021).

Several studies investigated the impact of the COVID-19 pandemic isolation on older adults demonstrating how coping strategies such as recreational participation contributed to resiliency that mediated their stress and isolation (Nurain et al., 2021; Shen et al., 2022; Son et al., 2021), but there is little research exploring the impact of recreation in building resilience to combat anxiety, stress, and isolation in college students attending Hispanic-serving institutions in the United States as a result of the COVID-19 pandemic. Li et al. (2021) investigated resiliency in combating negative emotions during the COVID-19 pandemic, but with college students at a Chinese university, and found that physical exercise reduced those emotions. There is little research exploring the impact of recreation in building resilience to combat anxiety, stress, and isolation in college students in the United States because of the COVID-19 pandemic.

The purpose of this qualitative study was to address this gap in the literature and explore the recreational behaviors of BIPOC college students enrolled at a public four-year, Hispanic-serving institution located in New York City during the COVID-19 pandemic. Therefore, this study sought to answer the following research questions:

1. How did the COVID-19 pandemic impact recreational participation among BIPOC college students attending a Hispanic-serving institution in New York City?
2. How did recreational participation influence the BIPOC college student experience at a Hispanic-serving institution in New York City during the COVID-19 pandemic?

METHOD

Research Site and Participants

This study was conducted at a public four-year, Hispanic-serving institution located in New York City. The site is a commuter school, meaning that there are no dormitories on campus, and students often utilize public transportation to travel to and from campus. However, at the time when the data collection occurred, April 2021, the campus was closed and students were attending courses virtually. It is also important to note that this particular Hispanic-serving institution has a high non-traditional college student population, particularly over the age of 24 years old and older. The institution has an undergraduate population made up of 31% male and 69% female; 55% Hispanic or Latino, 26% Black or African American, 8% White, and 7% Asian (Data USA, 2022).

Upon approval from the institution's institutional review board (IRB), the researchers utilized a convenience sampling method (Hatch, 2022) and sent out a recruitment email to approximately 13,000 undergraduate students through the undergraduate student list serve with information about the study and a link for those interested to participate to provide their email address. Forty participants initially provided their email addresses and were contacted to arrange for a semi-structured interview. Of those 40 participants, 14 agreed to participate. Prior to each semi-structured interview, participants were provided with the informed consent form and asked to complete a survey to provide demographic information such as age, gender, race/ethnicity, student status, and so on. The demographic survey also asked participants to choose a pseudonym to maintain participant confidentiality. The pseudonyms that participants chose for the demographic survey were used throughout the interviews.

Participants were undergraduate college students currently enrolled (i.e., taking courses) and were 18 years of age or older at the time of data collection. The total sample (n=14) included 21.4% Male and 78.6% Female, closely reflecting the ratio of the overall student population at the college. Forty-three percent of the sample identified themselves as African American, 28.5% identified as White, 14% identified as Caribbean Latinx, 7.1% identified as Afro-Caribbean, and 7.1% identified as Indian. Six participants, 43% were within the traditional aged college student category (18-24 years old), the rest were within the non-traditional aged college student category (six were 25-34 years old and two were 35-44 years old). Nine participants, 64.2%, were employed and five, 35.7%, were unemployed. A majority of the participants, eight (57%), reported that they live in the Bronx, which is considered to be the poorest and unhealthiest county in the United States (United States Census Bureau, 2022). Of note, these inequalities were exacerbated by the COVID-19 pandemic with the most deaths than any other borough in New York City (Freytas-Tamura et al., 2020). Six, 43%, of the fourteen participants reported a household income of less than \$40,000 per year. Of note, four out of the six participants that reported a household income of less than \$40,000 per year also reported that they were BIPOC. Table 1.0 includes all demographic information collected from each participant.

Table 1. Participant Demographics (n=14)

Pseudonym	Gender	Race/Ethnicity	Age	Borough	Employment	Household Income
Abby	Female	African American	18-24	Bronx	Unemployed/Looking	\$90,000-\$99,999
Athena	Female	Indian	18-24	Yonkers	Unemployed/Not Looking	\$80,000-\$89,999
Claire	Female	African American	18-24	Bronx	Employed/Wages	\$10,000-\$19,999
Daniel	Male	Afro-Caribbean	25-34	Bronx	Employed/Wages	\$150,000 or more
Glitter	Female	African American	25-34	Bronx	Employed/Wages	\$50,000-\$59,999
James	Male	African American	18-24	Manhattan	Unemployed/Not Looking	\$40,000-\$49,999
Joy	Female	White	25-34	Queens	Unemployed/Looking	\$0-\$10,000
Kay	Female	White	25-34	Manhattan	Employed/Wages	\$50,000-\$59,999
Leah	Female	African American	35-44	Bronx	Unemployed/Looking	\$10,000-\$19,999
Missy	Female	African American	35-44	Brooklyn	Employed/Wages	\$30,000-\$39,999
Nini	Female	Caribbean Latinx	25-34	Bronx	Employed/Wages	\$90,000-\$99,999
Rafy	Male	Caribbean Latinx	18-24	Bronx	Employed/Wages	\$30,000-\$39,999
Sailor	Female	White	25-34	Bronx	Employed/Wages	\$30,000-\$39,999
Silvia	Female	White	18-24	Manhattan	Employed/Wages	Not Reported

Data Collection Tools

Following the tenets of phenomenological qualitative method design semi-structured interviews were conducted using the Zoom virtual meeting software and were recorded for transcription purposes as a way to understand the everyday experiences of the participants during the COVID-19 pandemic (Hatch, 2002). The recorded interviews were transcribed using the transcription feature in Zoom. Examples of the interview questions were “Why do you participate in each activity?” “What motivates you to participate in each activity?” “What role does each activity play in your life?” “How do these activities relate to your friendships, academics, and daily stresses?”

Data Analysis

Upon completing data collection (semi-structured interviews), the researchers analyzed the transcriptions through in vivo coding, independently, after exporting them into the online coding software, Dedoose (Socio Cultural Research & Consultants, LLC., 2016). The researchers analyzed interrater reliability using Cohen’s Kappa and found it to be .61, indicating substantial agreement (McHugh, 2012). Utilizing inductive analysis, the researchers identified frames of analysis and selected frames found throughout multiple interviews, “a

segment of text that is comprehensible by itself and contains one idea, episode, or piece of information” (Hatch, 2002). Codes were then assigned to frames of analysis that were like one another and mapped to components of the World Health Organization’s Social Determinants of Health (SDH) framework (Hatch, 2002; World Health Organization, 2010). The researchers then related the SDH components to the findings in the literature (i.e., recreation as a mediating factor in combating negative emotions by locating data excerpts to support them) (Hatch, 2002).

The SDH Framework “shows how social, economic and political mechanisms give rise to a set of socioeconomic positions, whereby populations are stratified according to income, education, occupation, gender, race/ethnicity and other factors” (Figure 1.) (World Health Organization, 2010). The two aspects of the SDH framework are the structural determinants of health inequities (i.e., socioeconomic context and position) and the intermediary determinants of health (i.e., material circumstances, behaviors and biological factors, and psychosocial factors). The structural determinants of health inequities include structural mechanisms that are “those that generate stratification and social class divisions” such as income, education, occupation, social class, gender, and race/ethnicity and structural determinants that are the result of an individual’s socioeconomic position (i.e. individual factors) (World Health Organization, 2010). The structural determinants also include the overall socioeconomic and political context such as governance, macroeconomic policies, social policies, public policies, and culture and societal values. The socioeconomic and political context (policy factors) and the socioeconomic position (individual factors) within the structural determinants are interrelated, as in they influence each other (World Health Organization, 2010). The intermediary determinants of health include categories that shape an individual’s health outcomes (i.e., material circumstances, behaviors, psychosocial factors). Social cohesion and social capital are shared between the structural determinants and intermediary determinants, and have been determined to be a “key factor in shaping population health” (World Health Organization, 2010). For this study, the communitarian approach was used and is defined as “a psychosocial mechanism” and “the relation between individual health and society” (World Health Organization, 2010). As each semi-structured interview was conducted in this study between the researchers and the individual participant, structural determinants related to socioeconomic position and intermediary determinants related to material circumstances, behaviors, and psychosocial factors were used, along with social capital and social cohesion serving as “cross cutting” determinants (World Health Organization, 2010). See Figure 1. below for further details regarding the Social Determinants of Health Framework.

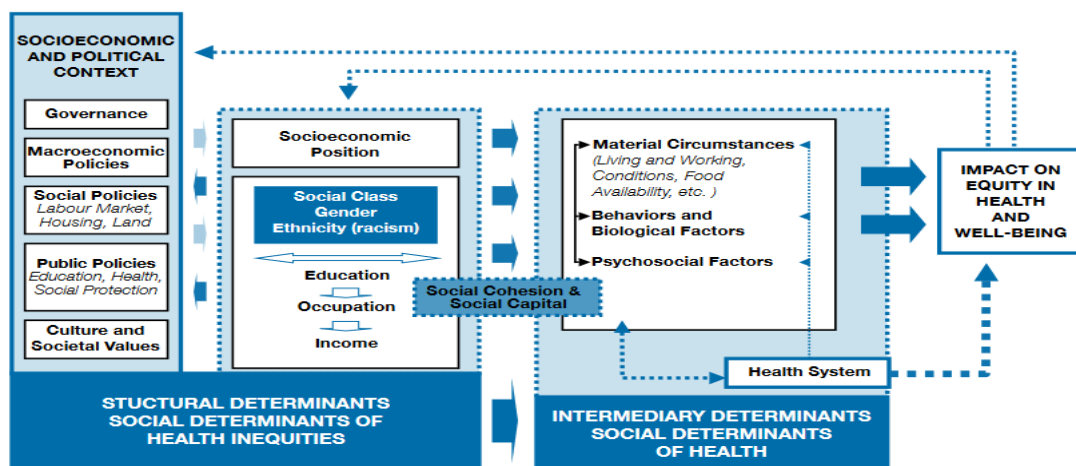


Figure 1. The World Health Organization’s Social Determinants of Health Framework (World Health Organization, 2010).

Positionality and Trustworthiness

One of the researchers currently serves as a faculty member with a focus on college student engagement, particularly in the form of recreation and the other researcher was a student enrolled in a recreation related academic program during the time the study was conducted. Therefore, one author (Eubank) worked at the institution during data collection and the other author (Pegues) was enrolled as a student. Eubank identifies as a cisgender, white male and Pegues identifies as a cisgender BIPOC female who both regularly participated in recreational activities as a way to reduce the psychological effects of the COVID-19 pandemic. While the researchers recognized their innate biases and attempted to avoid leading participants during the semi-structured interviews, we also see that our knowledge of the research topic assisted us as an interpretive lens (Denzin, 2017). Therefore, once analysis was complete, member-checking was conducted to ensure that the researchers interpreted what the participant communicated correctly (Shenton, 2004). All fourteen participants in the sample verified “that their words match what they actually intended” (Shenton, 2004).

RESULTS

Participants in this study reported that their recreational behaviors were impacted by the COVID-19 pandemic (i.e., socioeconomic and political context in the SDH). Social (labor market and land) and public policies (education and health) included the closure of many higher education institutions and city parks (i.e., open green spaces) limiting access to recreational opportunities for the participants. Their socioeconomic position (i.e., education, occupation, and income) created additional inequities where they were left on their own to find recreational opportunities in their material circumstances to mediate the negative emotions they experienced (World Health Organization, 2010). Many discussed their daily stresses, barriers to recreation, and the types of activities they enjoyed.

Structural Determinants of Health Inequities

Socioeconomic and Political Context (COVID-19)

The pandemic caused governing officials to act hastily in their response by implementing social and public policies that impacted the lives of those individuals living in New York City. Many found themselves being sent home from their employment indefinitely, some being able to continue to work from home and some losing their jobs (van Dorn et al., 2020). Businesses and other organizations that employees relied on for income closed. Schools, both K-12 and higher education, converted to online learning platforms (Maloney & Kim, 2020). The sudden closure of businesses and educational institutions left many who may have lost their jobs (i.e., occupation and income) and may have been attending college (i.e., education) experienced a great deal of stress and anxiety during unprecedented times (Airhihenbuwa et al., 2020). Those who were low-income BIPOC college students were impacted the most by these social and public policies.

Socioeconomic Position

The pandemic exacerbated existing daily stresses and barriers to recreational opportunities existed for many participants. Quarantine, school closures, and recreational facility closures were barriers seldom experienced before the pandemic. Time management and other responsibilities such as school and work were also reported and seemed to be more difficult to navigate.

The participants still experienced stress and anxiety due to school, work, and for some, increased family responsibilities. Work and school seemed to be the main source of daily stress

for my of the participants. For Silvia, although all her classes moved to the online format, she was still worried about her academics and the future. She said, “thinking about that I know it’s going to be a lot of commitments and, you know, finishing up my degree at [institution]...moving to a new thing, so I say a lot of that would be probably the major stress.” Leah had the same sentiment and stated, “academic pressures, you know, it has been a quite a semester. Assignment, one behind the other so that that kind of stress.” For those that were still able to maintain employment, balancing that and school was also very difficult, especially for James. He explained:

I work for one of the big four accounting firms and I would do that full time. And I would also go to school full time. Stressful, stressful situation. I’m not sure if you’ve ever heard of the busy season. Being a part of the Big Four you’re usually working six, seven days a week, 14-hour days during that time period of January to March. So yeah, so I was my first time experiencing busy season. Last year, I was working for a nonprofit and the CFO left. And I was the only person there running six nonprofits, the entire finance department on my own. That was my first time ever having to deal with anything of that sort. So that kind of that was a bit stressful. I’m also studying for the CPA. That I would say that’s stressful and I have four college exams too.

Diana expressed the same source of stress as James trying to balance between work and school. She said, “I work only 24 hours a week at my job, and all the other time I have left is for being in school. So, it’s the only stress I say I would have is school and work.”

Some additional sources of stress that participants identified were family obligations coupled with balancing between work and school. Nini said:

A great example I can give is during the pandemic was my first semester back to school in years. It was also my first semester with an infant and my husband works for sanitation, so he works during the snow season overnight so trying to navigate the beginning of the semester, an infant by myself added a lot of stress. I did not know how I was going to balance or manage everything between a full-time job, school, and taking care of the baby.

Claire also experienced stress from family dynamics and responsibilities. She indicated, “Touchy relationship with my family, like we’re kind of like on good terms now but I don’t know how long it’s going to last.” Claire also reflected on another source of stress, time management. She stated, “Since we’re all working remotely, I feel like sometimes I’m always on calls, not really have a work-life balance. I’m waking up late, going to sleep late, that probably contributes to a bad day.

For many participants, the COVID-19 pandemic presented several barriers to their normal recreational routine such as facility closures, family obligations, school and/or work, time management, injuries, and weather. Missy enjoyed dancing at a studio before the pandemic, but the pandemic caused her studio to close. She asserted, “COVID restricted my dancing. The studio has been closed since the beginning of the pandemic and I don’t know when it is re-opening, so I haven’t danced since then.” Like Missy, Leah participated in Shape Up NYC, which was a program that encouraged exercise through kickboxing, but was closed at the start of the pandemic. She acknowledged:

Last year there was a Shape Up NYC event that happened at a state park and I was participating in it on Saturdays. I was getting to know people, we were having fun in

the kickboxing class, but I was only there for about five sessions and then the next thing I know the teacher got sick and it shut down abruptly. Ever since then, they haven't had anything else so it's been rough.

Joy's barriers to her daily walks included her family obligations. She indicated, "My mom lost her job because of the pandemic and now it's been a year. I'm also worried about her because she's going through depression, so that keeps me from my regular activities, like walking." Other health barriers existed for Rafy, Kay, and Missy who were all dealing with an injury of some kind. For example, Missy said, "Recently I had shoulder surgery at the beginning of the Spring semester, literally a week after the start of the pandemic, so that restricted me from much of my activities."

Participants who enjoyed less active recreational activities such as reading, writing, drawing, arts and crafts, playing video games, and/or watching television also experienced barriers to them. For Sylvia, one of the biggest barriers to watching some of her favorite television shows and reading was prioritizing other commitments. She stated:

If you have a lot of other commitments, which isn't necessarily a bad thing, it just happens. I would have to cut down on some of them and prioritize, so I would cut down on watching shows...maybe the amount of time that I'd be reading would be shortened.

Daniel was also forced to prioritize his activities due to his schoolwork. He declared, "The free time is going to be a little limited for reading because I know I'm going to have a bunch of other stuff to read for school." Like Daniel, Nini reflected on her schoolwork as a primary barrier to her recreational behavior. She asserted, "When I have school at a time when I normally dedicate to [recreation], it has to then go to my studies."

Intermediary Determinants of Health

Material Circumstances, Behaviors, and Psychosocial Factors

Participants were still dealing with a lot of stress during the COVID-19 pandemic. They identified many sources of stress, but also participated in their recreational activities to cope with their stress.

Participants credited their recreational activities for relieving much of the stress they were dealing with during the pandemic. Kay indicated, "I think that they [activity] helped me because it's a way to relieve stress and helps me keep my mind focused. If I did not have a way to relieve stress, I would be burnt out." Glitter also participates in her recreational activities to cope with all of her responsibilities. She asserted, "Kickboxing is a good stress reliever. It's something to break the cycle of just being home all the time, constantly with two jobs, and I'm a full-time student." Athena also relieved stress through her recreational activities. She stated, "I feel like for running, it helps me clear my mind." She went on to reflect on how running helps her academically acknowledging, "It makes me more alert so if I do it in the morning and I have classes, I feel like I'm better prepared." Abby credited taking daily trips to the park near her house for many things such as stress relief and meeting other people:

The park that I mentioned, it's not far from me but it's a getaway from this house I'm in. It gets me going and is a good stress reliever. I also get fit, I get to meet other people at the park.

More passive activities also played a role in relieving much of the stress that participants were facing during the COVID-19 pandemic. For Abby, reading was a way to escape with her imagination. She said, "You and I, we read the same book, we're going to have different imagery in our heads. There's no way we can have the same picture of what the story is

describing...which is why I like reading.” Daniel, who feels that school is his only source of stress in his life, enjoys listening to music, writing poetry, watching television, and smoking marijuana to cope with that stress. He indicated:

Poetry makes me think about the stresses and what’s going on in my head when I write, so it’s more of a venting or a coping mechanism. Same thing with television, its escapism, your entering another world. And weed, it’s a little bit of both because you analyze where you are right now, what’s going on, but at the same time you could also just forget...just be in the present.

Diana found that watching television also provided an escape from her daily life during the pandemic. She indicated, “Definitely escapism. Just like, let me pop into this world. I think about the stresses and what’s going through my head, so it’s more of a venting or coping mechanism.”

Social Cohesion and Social Capital

Participants reported many differences regarding the recreational activities that they enjoyed, many of which required them to adjust their routines or adopt new ones during the pandemic. Some activities that participants reflected upon were activities that they participated in alone, sometimes with no choice due to quarantine from the pandemic. Participants also found activities that they liked to engage in with others. Of note, participants found enjoyment, improved their social capital, and created a sense of social cohesion through engaging in both individual and group activities.

Individual Activities: Participants identified several individual recreational activities they enjoyed taking part in by themselves such as going on walks or runs in their neighborhoods, yoga, cleaning or housework, cycling, working out, and hiking. When asked what activities she enjoys participating alone, Claire stated that, “I take walks, I do yoga by myself. I also like cleaning; I clean by myself too...there are lots of things I do by myself.” Rafe and his family also participate in individual recreational activities. During the pandemic, they bought a stationary bike to help get their mother to start exercising. He stated:

The bike is a recent purchase. It was during the quarantine because beforehand, I would message my friends or they would message me and we’d go play American football or something in the park nearby...but now that we’re inside, not going out as often, even though things are a little better than they were before...so we got the bike.

Joy also found that going outside to walk was one of the more convenient recreational activities to do by herself during the pandemic. She said, “When I go on walks, I mostly like to be present and just enjoy the day.”

Participants also enjoyed many individual activities, which were more passive, such as reading, listening to music, drawing, writing poetry, cooking, and watching television. Abby enjoyed listening to music and drawing by herself and asserted, “I put my headphones in, and I just start drawing. On my way to work I put my headphones in, or if the internet is not working, I start reading or I do both at the same time.” James is an avid sports fan, he indicated, “So it’s playoffs now and I’ve pretty much caught every game for the last three weeks or so.” Diana found that she liked to write poetry by herself but looked forward to sharing her writings with others upon returning to face-to-face interactions. She stated, “With poetry, I really think I’d rather write it on my own because it’s coming from me...but maybe there’ll be a club that we can share our readings once campus opens up again.”

Despite the many reported barriers (e.g., bad weather, facility closures, time, other priorities), participants still found ways to enjoy their own recreational behaviors, and many liked to do them alone.

Group Activities: Participants identified more active, group recreational activities they enjoyed doing with others or in the presence of others such as walking or running in their neighborhoods, playing sports, virtual fitness classes, and lifting weights. Leah enjoyed participating in many activities with her friends and family. She said:

With family and friends, that's what I would like to do. I'm trying to see about getting back to making plans with friends. I have friends who would like to make plans to get together again to socialize, and these things I would like to do with my friends either working out or taking a stroll in the parking.

Daniel also enjoyed playing sports with his friends outside during the pandemic and while indoor facilities were closed. He indicated, "Oh yeah, of course, basketball with friends is great to do outside right now." Abby, who enjoyed running in groups, asserted, "I would say running because I made a few friends at the park, so we run together now...I also play soccer with my brother in the backyard." Joy thought it was a good idea to walk with her mom to keep her moving as well. She declared, "I haven't been eating healthy, so I put walking on my daily activities and I'm also trying to get my mom out walking. It's much better if she has someone to push her."

Many participants also engaged in more passive, group activities, which they enjoyed with their friends, families, or in the presence of others such as playing video games (either with others in the same room or virtually), smoking marijuana or drinking socially, and sewing or knitting. When asked what activities he enjoyed participating in, Rafy asserted, "I like playing video games, I play a lot of Destiny too...I'm often time playing it with my friends trying to get these higher-level activities done." Like Rafy, Daniel enjoyed playing chess with others. He said, "Whoever wants to play chess. It's hard because I used to go to tournaments and recently joined a club." Claire shared that she is "a social drinker that does not drink alone, but only drinks when there are people around." Missy started to crochet with her sister and niece during the pandemic. She stated, "My sister is over at my house a lot now. I taught her how to crochet and knit, so we do that together."

DISCUSSION

Policies that involved the sudden closures of their college campus and other recreational facilities due to COVID-19 (socioeconomic and political context) certainly impacted undergraduate BIPOC students who mostly had a household income of \$40,000 or less. Living in one of the unhealthiest counties in the United States (socioeconomic position) created additional barriers to recreation (intermediary determinants of health) that impacted their health and well-being (Rice et al., 2020; World Health Organization, 2010). Fang et al. (2021) and Rice et al. (2020) found that the strict policies that included facility closures put an unwarranted burden on participants living in an urban environment such as New York City and negatively impacted their recreational behaviors. However, participants in this study were able to find various recreational opportunities on their own that served as intermediary determinants (i.e., material circumstances and psychological factors) that positively impacted their health and well-being (i.e., contributing to their resilience). Similarly, Çakir (2023) found that engagement in sports and physical activity improved quality of life in sports and physical activity participants from a sample of undergraduate students in Turkey.

The findings indicate that although these policies were detrimental to their health and well-being, participants found alternatives to existing recreational behaviors or found new ones. Their recreational activities contributed to a reduction in stress and anxiety and

maintaining healthy relationships (social cohesion and social capital) (World Health Organization, 2010), similar to other studies focused on the positive outcomes associated with participation at recreation-based services provided by many higher education institutions (Eubank & DeVita, 2015, 2021, 2023; Soria et al., 2022). Considering the Hispanic-serving institution that they attended does not have a Department of Campus Recreation, as other colleges do, this institution did still have facilities such as a free weight room, basketball courts, a swimming pool, and racquetball courts. However, very little programming occurs, and participation is done informally with limited supervision. Many college students depend on the resources provided by their higher education institution (i.e. recreational opportunities) (Forrester et al., 2018). Unfortunately, due to policies surrounding COVID-19, once the campus and recreational facilities were closed, there was no outreach resources provided to students like at other colleges and universities with a campus recreation department. Consequently, participants were left on their own regarding recreational behavior, a majority of whom lived in the urban environment of New York City. Figure 2. below provides further illustration how the findings in this study were applied to the World Health Organization’s Social Determinants of Health Framework (World Health Organization, 2010).

Findings Applied to the SDH Framework

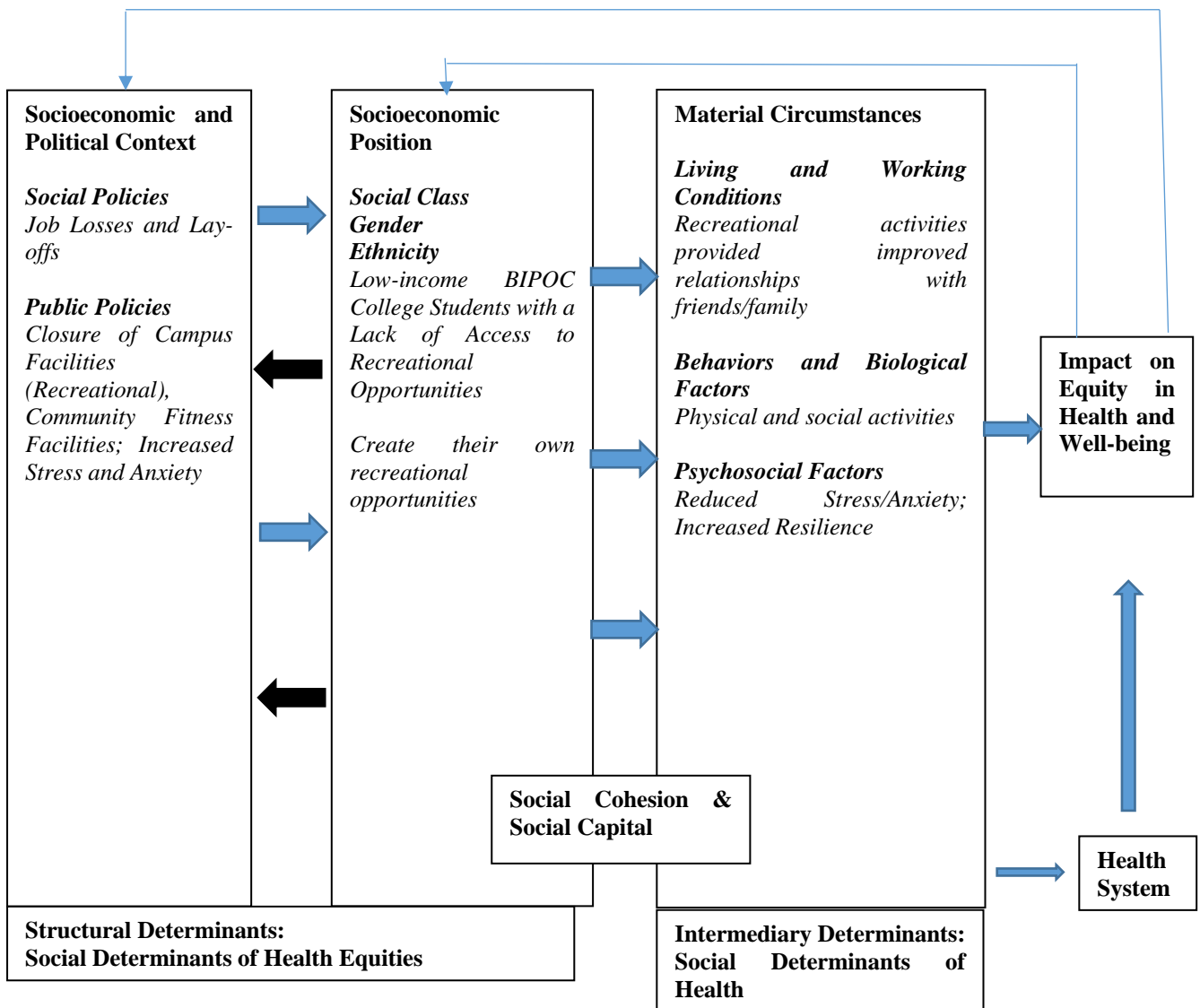


Figure 2. Findings Applied to the SDH Framework: Based on The World Health Organization’s Social Determinants of Health Framework (World Health Organization, 2010).

Barriers to Recreational Behaviors

Facility closures, family obligations, and injuries were just some of the barriers that existed for participants' recreational habits while other commitments, work, and school were barriers that mostly impacted the less active behaviors such as reading or watching television. Similarly, Ferguson et al. (2022) found that sociodemographic factors such as gender and income along with situational factors such as access and closures had an influence on an individual's recreational behavior. Participants' socioeconomic position along with social and public policies contributed to these barriers (World Health Organization, 2010). These findings are similar to recreational barriers that exist for incarcerated women (Camplain et al., 2022), military veterans (Herrmann et al., 2022), and individuals with learning disabilities (Haythorne et al., 2022). However, participants in this study overcame these barriers in a number of ways. Participants that mostly engaged in activities requiring access to a facility seemed to be more impacted by the pandemic than participants who engaged in more passive activities. Passive activities such as reading, writing, and listening to music were utilized when participants were restricted to their home and surrounding community. More physically active recreational activities require equipment, space, and appropriate facilities that participants did not have readily available to them once all non-essential facilities shut down, including their college campus. These environmental factors were similar to barriers found by Camplain et al. (2022), Haythorne et al. (2022), and Herrmann et al. (2022). Participants found that they had to motivate themselves, organize their time and nature of participation in each activity. This further shows the need for a departmental organization on every campus that is responsible for providing recreational opportunities to their students, or at least outreach to provide guidance on healthy behaviors, particularly during an acute health crisis where they are quarantined with only themselves and their families.

Recreational Behaviors

Recent studies have found that perceived risk, social norms, recommendations from authority, health benefits, and lifestyle adjustments are main influencers of an individual's recreational behavior during the COVID-19 pandemic (Ferguson et al., 2022; Mateer et al., 2021). The participants in this study reported a variety of different recreational behaviors including both individual and group activities that supported social cohesion and social capital. Social cohesion and social capital impacts both a person's socioeconomic position and their material circumstances (living and working conditions), behaviors and biological factors (barriers to recreation and ability), and psychosocial factors (stress and anxiety) (World Health Organization, 2010). Many recreational activities reported were biking, walking, boxing, and yoga. Interestingly, most recreational activities that participants engaged in occurred outside due to the shutdown of schools and local businesses. The outdoors became the best opportunity for recreation during the initial months of the pandemic, particularly in areas where schools and businesses closed and open space was more widely available (Curtis et al., 2022). Outdoor recreation increased during the pandemic and also served as a mediating factor that supported individuals' well-being, regardless of what the recreational behavior was (Fagerholm et al., 2021). Less active recreational activities included writing, drawing, reading, listening to music, and watching television. It seems that whatever the activity, participants engaged in it out of convenience due to their isolation. Participants still found something they could do to meet their recreational needs, even during a global pandemic.

Resilience

Participants spoke at great length about stress from time management, school, work, family obligations, bills, and living in New York City during the COVID-19 pandemic. Many reported high levels of stress (psychosocial factors) from before the pandemic yet attributed recreational activities (behaviors and biological factors) as the main stress reducer. Those that

mostly participated in more active recreational activities reported that it broke the cycle from being home, reduced stress from their academics, and provided a way to meet other people. Less active participants referred to their recreational activities as “escapism.” Several studies support the argument that college recreational facilities and participation work to reduce stress and anxiety in college students (Eubank & DeVita, 2021; Henchy, 2013; Soria et al., 2022; Worsley et al., 2022), however, the participants in this study did not have those resources during the COVID-19 pandemic. Studies focused on military veterans and outdoor recreation have found similar outcomes that supported their psychological well-being (Herrmann et al., 2022; Wheeler et al., 2020). Similarly participants who engaged in outside recreational activities due to environmental factors such as facility closures and limited space in their houses also experienced improvements in psychological well-being, which helped to reduce their stress levels.

Implications for Practice

This study demonstrated that the SDH Framework can be applied in the higher education setting to facilitate improved equity in health and well-being in college students, particularly during an acute health crisis. Although many campuses closed, or at least many recreational facilities closed, during the pandemic, it was clear that there was still a need for recreational activities for college students. Some colleges and universities adapted by bringing their services to the students, rather than students coming to them. One example of this outreach is through Zoom U, a popular phrase that has come up during the pandemic in higher education where university departments, such as campus recreation, provided activities through the Zoom platform. Purdue University provided cooking classes and virtual escape rooms via Zoom (Sedlar, n.d.). Similar to what many participants in this study took it upon themselves to do, Missouri State University’s department of campus recreation focused on outdoor activities and adventures such as day long trips to local hiking trails and other socially distant activities like golf (Sedlar, n.d.). Unfortunately, there was very little outreach that participants in this study received regarding recreation from their institution. For college students that live in an urban environment, such as New York City, there is limited outdoor space to utilize. Some participants in this study could no longer engage in their activities they normally enjoyed, or needed to change their routines in some way, due to the pandemic.

Many participants in this study reported an increased interest in recreation outside in open areas. With the limited open green space that New York City has to offer, the college could have provided opportunities on its campus, which has quite a bit of open space. Community outreach, education, and additional opportunities that other universities provided to their students could have benefited them as well. With many gyms and health clubs being closed due to the pandemic, the college also could have created partnerships with local businesses to hold recreational classes, such as group fitness, outside on its campus where social distancing was possible, benefiting both the local business and the students. However, governmental policies in reaction to the COVID-19 pandemic forced the college to close its campus instead.

Conclusion

This study demonstrated the importance of recreation in the lives of college students after the first year of the COVID-19 pandemic, how the SDH Framework can be applied to governmental response to an acute health crisis like COVID-19 and how that response impacts college students’ recreational behavior. The results of this study indicated an important role that units, or departments, responsible for providing recreational opportunities play in the lives of college students, such as campus recreation. The main objective of campus recreation is to market and provide opportunities to the college’s students through outreach initiatives in areas of aquatics, fitness, outdoor adventures, competitive sports, and even more passive activities

such as arts and crafts. Although the participants in this study were enrolled at a college that lacks such a unit or department, they found resilience through their own recreational opportunities. However, having a department and administrators whose priority it is to provide education and guidance may have resulted in greater persistence and resilience to many more students. This study demonstrated the important role that campus recreation plays in the lives of college students, particularly low-income BIPOC students attending a Hispanic-serving institution in urban areas. For these students, recreational activities were more important than ever during the COVID-19 pandemic. Higher education administrators would be wise to identify the barriers and influences on recreational engagement their own students are experiencing, what influences those activities have on their students, and how best to deliver those opportunities, particularly during an acute health crisis.

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Author(s)' statements on ethics and conflict of interest

Ethics statement: We hereby declare that research/publication ethics and citing principles have been considered in all the stages of the study. We take full responsibility for the content of the paper in case of dispute.

Conflicts of Interest: There are no conflicts of interest declared by the authors.

Funding: None