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## Dancing For Physical and Mental Health Benefits: Understanding The Attitudes, Beliefs, And Intentions Of Aging Black/African Americans

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DANCING FOR PHYSICAL AND MENTAL HEALTH BENEFITS: UNDERSTANDING  
THE ATTITUDES, BELIEFS, AND INTENTIONS OF AGING BLACK/AFRICAN  
AMERICANS

by

BRIANA N. KEITH

Under the Direction of Chivon A. Mingo (PhD)

## ABSTRACT

Aging Black adults remain disproportionately diagnosed with physical and mental health conditions. Behavioral interventions promoting healthy behaviors, such as dance therapy, can be used to manage many physical and mental health conditions successfully. Little is known about the willingness to participate in dance specifically for health benefits among this population. Using an exploratory research design, this study examined Black older adults' preferences and perceptions about dancing in general and specifically for physical and mental health benefits. Thirty-six participants completed a semi-structured questionnaire that assessed demographics, health status, beliefs, attitudes, intentions, and dance therapy intervention structure and delivery preferences. Findings indicate Black older adults express interest in engaging in dance for health benefits. Beliefs, attitudes, and intentions were positively correlated with dancing for health benefits. Therefore, designing dance therapy interventions for health benefits may be a feasible way to increase physical activity and prevent adverse health outcomes among Black older adults.

INDEX WORDS: Theory of Planned Behavior, physical and mental health, aging Black adults, dance

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## DEDICATION

I dedicate this thesis to the following:

To my mother, Linda Watkins, my rock and my best friend. I love you to the moon and back. You constantly show your unconditional love and support each and every day. You have pushed me socially and academically throughout my entire life and I cannot say thank you enough. I appreciate your patience, strength, love, and kindness throughout my life, especially with my schooling. You always have my back and motivate me to be better. Thank you for being you.

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## 1 INTRODUCTION

Dance, engaging in rhythmic movement to music, is a form of physical activity appreciated across a variety of age, gender, and racial/ethnic groups (Amin, 2011; Craighead, 2006; Gittens, 2012; Lindner, 1982). Notably, dance ranges in form (e.g., African, Bhangra, Flamenco), style (e.g., contemporary/modern, swing) and technique (e.g., ballet, waltz, jazz) which oftentimes has cultural underpinnings that are expressive of social, community, and religious values (Alpert et al., 2009; Chua, 2017; DeFrantz, 2002; Haboush, Floyd, Caron, LaSota, & Alvarez, 2006; Hanna, 1995; Lukach et al., 2016; Malone, 1996; Ravelin, Isola, & Kylmä, 2013; Siljamäki, Anttila, & Sääkslahti, 2014). The combination of physical movements involved in dance can positively impact both physical and mental health (Amin, 2011; Hanna, 1995; Lin, McClearn, & Tabourne, 2008; Lindner, 1982; Malone, 1996; Murrock, Higgins, & Kilion, 2009; Rabbia, 2010; Vadineia da Silva et al., 2016; Vankova, 2014). However, it is unclear how intentional one may be about engaging in dance, specifically for health benefits.

Within the Black culture, dance has a long history of serving as a mechanism for emotional expression, social engagement, and social cohesion (Murrock & Gary, 2010). This is evident with the evolution of dance among the Black community in the US. For example, during the slavery era, engaging in dance was a natural process for uplifting their spirits throughout this time of subjugation (DeFrantz, 2002). The impetus of dance later shifted in the 1940s and 1950s where dance was used for racial empowerment and ultimately elevated to Black dance companies and theaters (Amin, 2011; Dance Theatre of Harlem, 2015; DeFrantz, 2002; DeFrantz, 2005; IABD, n.d.; Malone, 1996; Ward, 2007). Currently, dance is widely used within the community, such as in the church (e.g., praise and worship, funerals), dance halls, streets (e.g., games, dance battles), homes, and community centers (e.g., dance classes, dance companies) (Amin, 2011; DeFrantz, 2002; Malone, 1996; Unruh, 2011). Although dance

has been a staple within the Black community and could serve as a way to manage and prevent health risks across the lifespan, in many instances, research has focused on the dance/health correlation among youth only (Flores, 1995; Pruett, 1983, Robinson et al., 2003). Older adults and particularly older Blacks may find dance to be advantageous for physical health (e.g., increasing physical activity, losing weight) and mental health (e.g., adaptive coping and reduction in depressive symptoms, stress, anxiety, cognitive declines) similar to other racial/ethnic groups (Dunlop et al., 2002; Haboush et al., 2006; Krishnan, 2015; Murrock & Graor, 2014; Murrock et al., 2009; Noice, Noice, & Kramer, 2014; Rabia, 2010; Ravelin et al., 2013; Vankova, 2014). Therefore, research focusing on the impact of dance as an intentional form of physical activity among older adults and specifically older minorities is warranted.

Dance therapy (i.e., a non-traditional method of exercising typically including repetitive movements of the body, memorization of dance steps, and cognitive skills) is a prescribed method of dance aimed at improving physical and mental health (Lukach et al., 2016; Murrock & Gary, 2010; Murrock et al., 2009; Olvera, 2013; Palo-Bengtsson, Winblad, & Ekman, 2003). Dance therapy interventions can be administered to an individual or a group (Lukach et al., 2016; Murrock & Gary, 2010; Murrock et al., 2009; Olvera, 2013; Palo-Bengtsson, Winblad, & Ekman, 2003). Furthermore, dance therapy interventions can be held in a variety of settings (e.g., schools, churches, senior centers, assisted living facilities, nursing homes) and include a variety of dance forms that can appeal to many audiences (Adam et al., 2016; Krishnan et al., 2015; Murrock & Graor, 2014; Payne, 1992; Rodio & Holmes, 2017; Vankova, 2014). Regardless of the delivery modality, dancing can have a salutary effect. For example, providing an opportunity for older adults to dance has been shown to improve mood due to the ability to engage in a fun activity, interact with others, appreciate physical touch, and reminisce (Alpert et al., 2009; Murrock & Graor, 2014). While it is plausible that similar findings would remain applicable among Black older adults, this area of research remains understudied. Similar to behavioral

intervention research in general, the inclusion of Black older adults in dance therapy intervention research is limited or not specifically reported (Alpert et al., 2009; Adam, Ramli, Shahar, 2016; Haboush et al., 2016; Hwang & Braun, 2015; Krishnan et al., 2015; Rodio & Holmes, 2017; Vankova et al., 2014). Low participation may be a result of low recruitment and retention efforts or a consequence of other documented psychosocial and cultural factors (e.g., mistrust, attitudes about research studies, lack of access, lack of availability, or other past negative experiences) (Allman et al., 2011; Chadiha et al., 2011; Lichtenberg, 2011; Stineman et al., 2011).

Notably, Black older adults fare worse on many physical and mental health conditions, continue to exhibit higher rates of disability, and experience all-cause mortality at a higher rate when compared to White counterparts (CDC, 2017c; CDC, 2018a; Lukach et al., 2016). While physical activity is a crucial component for healthy aging and can be a method for managing or preventing the aforementioned adverse health outcomes, approximately 80% of adults do not meet the federal physical activity guidelines (Lee et al., 2012; Nocon et al., 2008; Keysor, 2003; US Department of Human Health and Services, 2018). This is particularly exacerbated among older Blacks who report significantly low rates of physical activity attainment (Song, 2013, Wang & Chen, 2011). In fact, among minority older adults, less than 10% of Blacks met the recommendations (CDC, 2017a). Considering Black older adults are disproportionately burdened with the diagnosis and management of various health conditions but less likely to engage in physical activity highlights the importance of determining if culturally appealing forms of physical activity such as dance could bridge this gap.

However, preferences and perceptions of physical activities can influence physical and mental health. Positive attitudes and perceptions of physical activities like dance could lead to increased motivation and participation. As an example, aging Black men and women may be more receptive to engage in dance classes that included favored dance styles and/or offered in preferred locations (e.g.,

community senior center with peers). Theoretically, developing and implementing physical activities in a feasible and acceptable manner would lead to increased participation and positive health outcomes. Understanding preferences that Black adults have toward dance (i.e., the art of dance in general) and dancing for health would serve as formative feedback useful for the consideration of the design of dance-focused health promotion programs.

Therefore, the overarching objective of this exploratory study is to examine Black older adults' perceptions of (i.e., beliefs, attitudes, intentions) and preferences for a community-based dance therapy intervention specifically for physical and mental health benefits. Following this introduction, the thesis includes a literature review that discusses three key areas; 1) the history of dance in the Black community, 2) dance therapy as a health behavioral intervention, and 3) and the application of the theory of planned behavior as it relates to Black older adults' willingness to engage in dance specifically for physical and mental health benefits. The literature review is followed by the methods, results, and a discussion that highlights recommendations for engaging this target population in dance-focused physical activity interventions. This research is timely as public health efforts are focused on identifying ways to increase physical activities among all older adults and specifically minorities as well as decrease health and healthcare disparities that disproportionately plague aging racial/ethnic minorities.

## 2 LITERATURE REVIEW

Dance is an art form that includes intentional and rhythmic body movements (usually to music) for the purpose of expressing emotions, communicating a message, and/or engaging in an enjoyable activity. In addition, dance is a form of physical activity that integrates the physical, mental, emotional, and spiritual aspect of an individual through different styles of creative movement with varying levels of difficulty (Amin, 2011; Hanna, 1995; Lin, McClearn, & Tabourne, 2008; Lindner, 1982; Malone, 1996; Murrock, Higgins, & Kilion, 2009; Rabbia, 2010; Vadineia da Silva et al., 2016; Vankova et al., 2014). This form of physical activity is universal and can be expressed individually, in couples, or in a group among people with variability in body type, age, cultural background, socioeconomic status, and gender ultimately making it appealing, acceptable, and practical for individuals with different demographic characteristics (Amin, 2011; Craighead, 2006; Gittens, 2012; Lindner, 1982; Noice, Noice, & Kramer, 2014; Ravelin, Isola, & Kylmä, 2013). Notably, dance is expressed using distinguishable forms and techniques (e.g., ballet, contemporary/modern, jazz, tap, swing, waltz) that in some instances are connected to cultural norms (e.g., African, Bhangra, Chinese, and Flamenco), oftentimes enhancing appeal and acceptance among target populations. Dance is a form of art because it can be expressed, specifically in a manner that is appealing to you (Alpert et al., 2009; Chua, 2017; DeFrantz, 2002; Haboush et al., 2006; Hanna, 1995; Lukach et al., 2016; Malone, 1996; Ravelin et al., 2013; Siljamäki, Anttila, & Sääkslahti, 2014). Although dance is a common activity and appeals to a wide range of individuals, oftentimes laypersons do not consider the history of the art or the potential for this particular form of art to impact one physically, mentally, spiritually, and socially (Murrock et al., 2009; Noice et al., 2014; Rabbia, 2010; Ravelin et al., 2013; Vankova et al., 2014).

## **2.1 History of dance within the Black community**

Within the context of the African diaspora, dance has served as a mechanism for religious expression, social engagement, and self-reflection (Ward, 2007). Historically, the cultural connection to the art of dance among Black people can be traced back to the African slave trade, where dance served as a way to communicate across the language differences of slaves from various regions and tribal groups all housed on one large cargo ship (DeFrantz, 2002; James, 1938). For example, a large majority of the slaves shared a common ancestral dance known as the Ring Shout, which transcended various tribal and ethnic groups (e.g., Akans, Ashantees, Bakongos, and Ibos) (DeFrantz, 2002). The slaves created this ritual (i.e., the Ring Shout) of dancing in a circle while clapping hands and stomping feet, which resulted in a euphoric synergy (DeFrantz, 2002; Ward, 2007). The Ring Shout was used for ancestral ceremonies; to become one with previous ancestors and embody their spirit. The Ring Shout became a religious ritual in which the majority of Africans were able to share similar religious beliefs and was a symbol of spiritual outlook. In summary, the Ring Shout symbolized a sense of wholeness among the slaves and encouraged the community (DeFrantz, 2002).

Although dancing may have been perceived as an enjoyable activity, it is important to note oftentimes dancing was forced upon the slaves as a way to keep them active and looking healthy. This practice remained a norm for southern slave owners in the U.S., who forced their slaves to dance for both health and economic reasons shifting the perspective of an activity once seen among this population as freeing and redeeming to one that became a means to an end; dancing for survival (Craighead, 2006; DeFrantz, 2002; James, 1938; Malone, 1996; Ward, 2007). Although the intentions may have been to exploit the meaning and value of dance, Black people demonstrated resilience, as they held on to cultural values and strengthened their community bond. Black people continued to use dance for personal growth, communal growth (e.g., funerals, religious ceremonies, harvest rituals, rites of

passage, etc.) and communal strengthening (Malone, 1996; Ward, 2007). Dance was also an artistic way of communication, by expressing gratitude, friendship, or hostility through specific postures, facial expressions, and movements (Amin, 2011). For example, women would walk toward men and shake their hips as an invitation to dance with them (Amin, 2011). Moreover, Black people used dance to address social and religious issues within their communities specifically, “Black Nationalism” (i.e., distinction and separation of race for Black people in the U.S.) and maintaining Christian values (Amin, 2011; DeFrantz, 2002; Malone, 1996).

### *2.1.1 Evolution of dance within the Black community*

Over time, dance continued to be a cornerstone of cultural connectedness to ancestry for this community and remains so today (Ward, 2007). In the South, for Black individuals who often worked six days a week as a way to provide for their family, dancing was a form of escape (DeFrantz, 2002; Unruh, 2011). This emotional and social outlet was especially beneficial for women, as women were burdened with the responsibilities of being domestics, caring for the homes and children of their White counterparts, and needed a way to re-energize to care for their own families (DeFrantz, 2002). While dance was used for their emotional health, dance yet again evolved with time.

Neighborhood dance halls gained popularity as they provided the space and opportunity for Black men and women to dance freely. Although nights at the dance hall were filled with celebration and socialization, older generations and Black bourgeoisie viewed these dance halls as promiscuous, tempting, and the “enemy to racial advancement” (Unruh, 2011). They feared women would dance all night and result in presenteeism and absenteeism (Unruh, 2011). Although dance has its benefits and provides a sense of attachment and socialization among this cultural group, it seemed to be an activity favored by a younger generation. Older Black adults at the time were less likely to engage in the culture of dance at the same pace as the younger generation (DeFrantz, 2002; Unruh, 2011). However, younger

Black dancers felt liberated from set expectations and values of the middle-class. They reclaimed their bodies by using it to their discretion and viewed dance as a new form of work; that included practicing skills and creative improvisation. Dancing allowed Black women to create and construct their own understandings of femininity and womanhood in a society that set White women as the standard (Unruh, 2011). In these dance halls, Black women did not feel degraded by White people and truly felt a sense of happiness (Unruh, 2011). Dance once again became a source of freedom for Black people (Amin, 2011; Malone, 1996; Unruh, 2011).

Even though dance halls still exist today, the reasons why men and women congregate in these spaces have changed over time. Before, dance halls allowed many Black people to forget their dreadful work and life conditions and embrace their freedom from oppression. Dance halls during the 1920s and 1930s allowed men and women to adjust to their lives here in the United States, living without an oppressive master. However, during the 1940s, dance halls became a place where many Black people in the U.S. came together to simply enjoy music, dance, and social engagement (Unruh, 2011). Dance in the 1940s was a turning point for many Black people. This period of dance was a time for mental and spiritual healing, as well as acceptance. Dance provided spaces for individuals with anxieties about their dance abilities to receive positive affirmations from the community. Dance also provided safe spaces for people battling tensions because of their gender and sexuality and established recognition of the urban Black identity (i.e., how Black people identified themselves in a predominantly White society) (DeFrantz, 2002).

As dance continued to be a cultural nexus for the Black community, the rise of *Black Dance* emerged in the 1950s and 1960s (Amin, 2011, Craighead, 2006; DeFrantz, 2002). *Black Dance* includes a range of styles and techniques derived from Africa, West Indies, and the Deep South region of the U.S. The movements are comprised of expressions of one's identity and experiences as a Black individual

(Amin, 2011; Craighead, 2006; DeFrantz, 2002; Gittens, 2012). For example, *Black Dance* can be a form of protest (e.g., a method for speaking out against racism, discrimination, prejudice), an expression of cultural differences (i.e., between Black and White people), and racial empowerment (Amin, 2011; Craighead, 2006; Gittens, 2012). Racial empowerment is similar to the present-day Black Lives Matter campaign; where Black individuals are given the strength and voice to be heard in a society where the problems they face are oftentimes ignored of problems they face (e.g., racial discrimination in the workplace, stereotyped, etc.).

*Black Dance* symbolizes and expresses how historical conditions left an effect on the lives of Black people (Amin, 2011; Craighead, 2006; DeFrantz, 2002; Gittens, 2012). Within *Black Dance*, Black individuals share experiences, memories, and the aesthetic values of their people (Craighead, 2006; DeFrantz, 2002). *Black Dance* symbolizes the reproduction and preservation of Black culture and history (Hardin, 2016). Ultimately, *Black Dance* is the artistic growth, engagement, and community responsibility upheld by Black people (Amin, 2011).

*Black Dance* started to expand and became a style that was introduced in large dance companies. As a result, the New York Negro Ballet was established in the 1950s, where they connected dancers in the still-segregated America. Alvin Ailey, an activist, founded The Alvin Ailey American Dance Theater in 1958. He envisioned three goals for his company: give Black dancers (i.e., African diaspora) in New York a home, provide an artistic voice for the dancers, and create a racially and ethnically integrated company (DeFrantz, 2002; DeFrantz, 2005). His company includes ballet, jazz, and several modern dance styles and techniques. His goal was to show work that spoke about the histories of Black people and demonstrate (through his integrated company) that color (i.e., race), is not important when it comes to dance (DeFrantz, 2005). Also, there was the Dance Theatre of Harlem (DTH) created by Arthur Mitchell and Karel Shook in 1969. The DTH presented young Black dancers the opportunity to study

classical ballet and other affiliated arts (DeFrantz, 2002; Dance Theatre of Harlem, 2015). With the DTM continually being active in the community today, they have three goals in their mission statement: provide a school that trains children on classical ballet, enlighten the community with arts education and outreach programs, and present a ballet company that displays high-quality dance performances. The DTM is local in New York City and travels abroad (Dance Theatre of Harlem, 2015).

The International Association of Blacks in Dance (IABD) was (and is) the largest gathering of Black professional dancers for a dance conference (DeFrantz, 2002; IABD, n.d.). In 1991, this conference began as a way for Black people to come together, network, and share resources to grow in the professional dance community. The IABD first started with just modern and ballet dance, but has expanded to also include African dance, hip hop, and various cultural specific dances (DeFrantz, 2002; IABD Association, n.d.). The IABD offers dance classes, skill-building workshops, scholarly panels, and a range of performance showcases (DeFrantz, 2002).

### ***2.1.2 Various dance options***

Although, the aforementioned dance companies specializing in the African diaspora have become a long-lasting resource in the Black community, most of the dances performed by the target population are learned in dance halls (i.e. informal dance locations where Black people were more sensual), social clubs (i.e., formal dance locations where Black people danced ballroom style), house parties, churches (i.e., liturgical dancing in the form of praise and free worship), and other social settings (Amin, 2011; Malone, 1996; Unruh, 2011). Within all of these settings, dance is used to celebrate and share moments, as well as to sanctify the artistic heritage of dance's history (DeFrantz, 2002). Even though there are many avenues of dance in the Black community and culture, other opportunities for Black individuals to use dance may have been overlooked (e.g., dance therapy - a form of prevention or treatment that intentionally involves the use of dance and body movement to improve physical and mental health; a

type of physical activity) (Hanna, 1995). As an illustration, dance as a form of physical activity is rarely the driving force for participation among Black individuals, despite the fact that historically, slave owners mandated dance among Black people as a method to keep them physically active and marketable (Craighead, 2006; DeFrantz, 2002; James, 1938; Malone, 1996; Ward, 2007). Engaging in dance intentionally for physical and mental health does not have to suppress or eliminate the creativity, community bonding, or social interactions, associated with the purpose of dance amongst this community (Gittens, 2012; Unruh, 2011).

### ***2.1.3 Exclusion of Black older adults***

Similar to dance in the south during the jazz era, oftentimes the focus was on engaging youth or young adults (Unruh, 2011). Dance was routinely included in many of the games (e.g., double-dutch rope jumping), sports (e.g., cheerleading), and activities (e.g., stepping, drill team) that were youth or young adult focused (Malone, 1996). With the youth dancing with their peers and young adults going to clubs, parties, and the streets to dance, there was not much of a place for dancing for older adults; until now. Dance classes, therapy sessions, and interventions in the community in senior centers, assisted living facilities, and churches are becoming more common; this provides an outlet and opportunity for older adults to express themselves through dance, similar to the younger generation (Haboush et al., 2006; Hwang & Braun, 2015; Murrock & Graor, 2014; Rodio & Holmes, 2017). More commonly older adults are given the opportunity to use dance to build social interactions, bond with the community, connect with their culture, release stress and anxiety, and readily express themselves (Murrock & Graor, 2014). Specifically, for older Black adults, they may feel a sense of freedom through dance that feels familiar or find peace and quality of life in having the opportunity to engage publicly in a cherished pastime that was once only allowed in segregated settings (Unruh, 2011). The integration of dance into

social settings that cater to the aging population facilitates the ability to encourage involvement in dance as a mechanism for increasing physical activity among this target population.

## **2.2 Dance therapy**

As previously mentioned, dance/movement therapy is a form of non-verbal communication through rhythmic movement, with a constant flow of energy from the bodily movements to imagery to verbalization, that can be used to prevent or treat physical and mental health conditions (Alperson, 1974; Hanna, 1995; Hwang & Braun, 2015; Levy, 1988; Lindner, 1982; Schmais & White, 1996). Dance therapy is a type of behavioral intervention that can positively impact physical and mental health; such as a fun way to exercise with friends and increase physical activity, release stress and anxiety, reduce or eliminate depressive symptoms, express emotions, and increase socialization (Dunlop et al., 2002; Haboush et al., 2006; Krishnan, 2015; Vankova, 2014). Dance therapy can be taught by trained leaders, as well as professional dance artists and choreographers in the community. In general, behavioral interventions, such as dance therapy interventions, are created to address public health issues (e.g., chronic diseases, health and healthcare disparities). They are typically viewed as prevention and treatment options for people in the community (Gitlin & Czaja, 2016). Behavioral interventions such as dance therapy interventions are helpful for health management for various groups of people (e.g., older adults, people with intellectual and developmental disabilities, families) (Gitlin & Czaja, 2016; Hanna, 1995).

### ***2.2.1 Utilization patterns and practices***

For older adults, dance therapy sessions are typically focused on the growth and improvement of physical, psychological, and social aspects of their lives (Alperson, 1974; Bräuninger, 2012; Hwang & Braun, 2015; Levy, 1988; Schmais & White, 1996). Sessions can be structured (i.e., regimented schedules), unstructured (i.e., dancing freely and openly with no time restraints and the ability to modify

the choreography), formal (i.e., with dance therapists), informal (i.e., with professional dance choreographers) and offered to a group or individual. On average, sessions run between 45-60 minutes, roughly one to three times per week, with the average length of an intervention being between six to 12 weeks (Adam et al., 2016; Haboush et al., 2006; Hwang & Braun, 2015; Krishnan et al., 2015; Lin et al., 2008; Murrock & Gary, 2010; Murrock & Graor, 2014; Murrock et al., 2009; Vankova et al., 2014). Within the sessions of the intervention, participants are encouraged to explore their external and internal environments, using tactics such as acting, role-playing, improv (i.e., dancers move naturally and spontaneously through the environment), and music through movement (Alperson, 1974; Amin, 2011; Hanna, 1995; Lindner, 1982; Payne, 1992; Schmais & White, 1996; Vankova et al., 2014).

Dance therapy interventions are created to propose a solution to combat health problems. They can be held in nursing homes, hospitals, senior centers, schools, churches, etc. These dance therapy interventions create emotionally safe environments for all participants (Adam et al., 2016; Krishnan et al., 2015; Murrock & Graor, 2014; Payne, 1992; Rodio & Holmes, 2017; Vankova, 2014). While dance therapists are capable of designing these open and welcoming settings, they can make the intervention fun and exciting by including a variety of dance forms, techniques, and styles in the sessions. These dance styles include cultural (e.g., African), Zumba, jazz, and contemporary (Alpert et al., 2009; Adam et al., 2016; Hwang & Braun, 2015; Gittens, 2012; Krishnan et al., 2015; Murrock & Gary, 2010; Murrock et al., 2009; Olvera, 2008; Rodio & Holmes, 2017). However, within these research studies (Alpert et al., 2009; Adam et al., 2016; Hwang & Braun, 2015; Gittens, 2012; Krishnan et al., 2015; Murrock & Gary, 2010; Murrock et al., 2009; Olvera, 2008; Rodio & Holmes, 2017), only four mention Black individuals in pertaining to dance (Gittens, 2012; Murrock & Gary, 2010; Murrock et al., 2009; Olvera, 2008) and out of those four, only two are dance therapy interventions (Murrock & Gary, 2010; Murrock et al., 2009). The other two research studies (Gittens, 2010; Olvera, 2008) discuss dance in

general for Black individuals. While the most popular style of dance found in the literature for dance interventions for older adults is ballroom dance (e.g., foxtrot, waltz, tango, cha-cha, cancan, swing, rumba, polka, merengue, and salsa), older Black adults consistently were not mentioned or included in the participation (Haboush et al., 2016; Hwang & Braun, 2015; Rodio & Holmes, 2017; Vankova et al., 2014). Because of the lack of research surrounding older Black adults participating in dance therapy interventions, their preferences and opinions on what they would like in the dance sessions, such as type of dance, inclusion of music, group or individual based classes, and/or location are unknown. Knowing their preferences would help researchers create dance therapy interventions for specific target groups (minorities) to further improve physical and mental health within those communities. However, for Black older adults, they may have a preference towards a culturally specific dance, such as African because of its spiritual, cultural, and ethnic influences (Lukach et al., 2016; Murrock & Gary, 2010; Murrock et al., 2009; Olvera 2008; Siljamäki et al., 2014).

### **2.2.2 *Low participation of Black older adults***

Recruitment and retention of Black older adults for behavioral interventions, such as dance therapy interventions, does not solely fall on the hands of the researchers. Older Black adults have to be willing to participate in research studies and trust that the researchers have their best interests, however, some older Black adults are skeptical of participating in research studies in the community. Factors such as mistrust in clinical trials, researchers, and research studies can decrease the recruitment and retention of Black older adults (Allman et al., 2011; Chadiha et al., 2011; Lichtenberg, 2011; Stineman et al., 2011). Even though it has been shown that dance therapy interventions can improve physical and mental health, some older Black adults encounter negative experiences with society's healthcare system and community health-based programs (Allman et al., 2011; Lichtenberg, 2011). Some of the experiences are lack of transportation to the program sites, unsafe neighborhoods, and misunderstanding of how the

study can benefit them. Also, some older Black adults believe that these community health-based programs are supposed to be a cure for health conditions, however, the programs are implemented to help with treatment and prevention (Dunlop et al., 2002; Gitlin & Czaja; 2016; Lichtenberg, 2011; Olvera, 2008; Stineman et al., 2011). For dance therapy interventions, the program is typically six to twelve weeks long, and unfortunately, some Black adults are unable to commit because of their lifestyle (e.g., unable to take off of work, caregiver) (Adam et al., 2016; Haboush et al., 2006; Hwang & Braun, 2015; Krishnan et al., 2015; Lin et al., 2008; Murrock & Gary, 2010; Murrock & Graor, 2014; Murrock et al., 2009; Stineman et al., 2011; Vankova et al., 2014). All of these factors can negatively impact the participation of Black older adults in dance therapy interventions within the community. However, this does not mean that a behavioral intervention cannot be created to help aging Black people.

### ***2.2.3 Health benefits of dance therapy interventions***

Dance therapy interventions have shown to be effective in positively impacting physical and mental health (e.g., emotions, cognition, social interactions), while creating a way to socially bond with the community (Hanna, 1995; Hwang & Braun, 2015; Lin et al., 2008; Murrock & Graor, 2014; Olvera, 2013; Palo-Bengtsson, Winblad, & Ekman, 2003; Ward, 2007). Specifically, dance therapy interventions can lead to an increase in physical health among people in general. Dancing between 45-60 minutes up to three days a week is approximately the recommended amount of time for older adults to exercise to attain health benefits (Rabbia, 2010). While this is a standard for all older adults, many Black older adults, especially women, lead sedentary lives, which results in long periods of inactivity. Dance therapy interventions can combat inactivity by encouraging physical activity a set amount of days over the course of weeks; which can lead to a change in physical lifestyle (Adam et al., 2016; Haboush et al., 2006; Hwang & Braun, 2015; Krishnan et al., 2015; Lin et al., 2008; Murrock & Gary, 2010; Murrock & Graor, 2014; Murrock et al., 2009; Vankova et al., 2014).

However, insufficient physical activity is correlated with a number of chronic health conditions that are highly prevalent in the aging community, such as obesity (Lukach et al., 2016; Mays et al., 2007; Murrock & Gary, 2010; Murrock et al., 2009; Olvera, 2013). Obesity is one of the most prevalent health issues found within the Black community, especially among women (Lukach et al., 2016; Mays et al., 2007; Murrock & Gary, 2010; Olvera, 2013; OMH, 2016). Obesity is a complex health condition in which the body fat of an individual is in excess and a risk factor for other serious health problems (Murrock & Gary, 2010). Research has shown that previous dance therapy interventions have taken physical health into consideration by increasing physical activity, in order for their participants to lose weight and gain energy. For example, Krishnan et al. (2015) had a dance therapy intervention in the community that included Zumba, which is a dance technique that is heavily cardio-based and involves upbeat music. The research study included 28 sedentary female volunteers between the ages of 18 to 65, who participated in a Zumba dance therapy intervention three days a week for sixteen weeks (Krishnan et al., 2015). After the completion of the intervention, the results showed significant weight loss, body mass index reduction, and reductions in the waist and hip. The researchers noticed more participants had positive attitudes towards exercising and an increase in their motivation (Krishnan et al., 2015). The lack of motivation is a key factor in the high rates of obesity within the community, especially older adults (Hwang & Braun, 2015; Murrock & Gary, 2010). While this research study acknowledged that with motivation, women are able to work together (dance) with one another to improve physical health and attitudes toward exercising, this article did not specify the race/ethnicity of its' participants. So, while this article was able to help 28 women who led sedentary lives, it did not inform us which women were helped. Interventions like the one above can help aging Black adults, when they are acknowledged and included in the research and studies. Leading an active lifestyle including exercising, can help reduce the risk of illnesses for both men and women (Lackland et al., 2013; Towfighi & Saver, 2011).

Increasing physical activity through dance therapy interventions can decrease obesity, as well as the rates of diabetes, stroke, and hypertension (Lackland et al., 2013; OMH, 2016; Towfighi & Saver, 2011). Black people are twice as likely to be diagnosed with diabetes, compared to non-Hispanic Whites (CDC, 2017c; Mays et al., 2007; Murrock et al., 2009; Ofstedal & Weir, 2011; OMH, 2016; U.S. Department of Health and Human Services, 2001). According to the Centers for Disease Control and Prevention, over 85% of older adults (i.e., 65 years and older) have at least one chronic condition, 56% have two chronic conditions, and 23.1% have three or more chronic conditions, with women having a higher percentage in all categories (CDC, 2009). With the majority of older adults living with chronic conditions, especially older Black adults, dance therapy interventions can offer a way for older adults to manage and possibly prevent these adverse health conditions. A dance therapy intervention can positively impact the way older adults view their life and health.

While dance therapy interventions are able to improve physical health in people, they are also able to improve mental health, which includes a person's cognitive levels, emotions, and social well-being. Mental health conditions, such as Alzheimer's disease, are detrimental to the older generation by being the third leading cause of death among older adults (Auday, 2016; CDC, 2018a). For older Black adults, they are four times more likely to experience cognitive declines and twice as likely to develop Alzheimer's disease compared to their White counterparts (Lukach et al., 2016). Alzheimer's disease is a neurodegenerative disease, with age being the largest risk factor for development (Auday, 2016). Alzheimer's disease negatively impacts a person's cognition (e.g., concentration, memory, thoughts, perception) and continues to decline with age (Alpert et al., 2009; Palo-Bengtsson et al., 2003). While there is limited evidence stating that dance therapy interventions improve cognitive health for older adults, the interventions have been shown to help maintain memory and concentration (Hwang & Braun, 2015). In one study, participants were asked about past dance experiences with open-ended questions.

One of the residents, with significant memory impairment, remembered dance moves and was able to recall memories of her past career as a ballerina (Rodio & Holmes, 2017). Another study focused on a dance intervention in a nursing home. There was a study conducted with six individuals from the nursing home (two men, four women) where older adults with dementia who engaged in dance therapy. Three of the participants attended one dance session, one attended two dance sessions, and two participants attended three dance sessions. All four dance events were video recorded. According to the results, the participants' distant memory was supported through the engagement of dance and they maintained wakefulness and concentration. Many participants expressed joy and happiness. (Palo-Bengtsson et al., 2003). In another study, Alpert et al. (2009) conducted a study on thirteen healthy women, between the ages of 54-88. Before and during the study, they used the Geriatric Depression Scale and self-report questionnaires. It is stated that jazz dance requires cognitive skill, flexibility, and balance. The repetitive dance steps help with memorization skills. The study was conducted over fifteen weeks with assessments at three time points (pre-test, midpoint, post-test). The jazz dance classes created support groups through forced social interaction, which showed improvements in mood. However, there was no significant improvement in depression or cognition, but the levels remained stable (Alpert et al., 2009). With Black older adults being more susceptible to being diagnosed with Alzheimer's disease and more likely to experience cognitive decline, none of the aforementioned studies disclosed the racial/ethnic demographics of their participants. While dance therapy may not be an option for prevention of forms of dementia, such as Alzheimer's disease, it can improve overall quality of life (Alpert et al., 2009; Hwang & Braun, 2015; Palo-Bengtsson et al., 2003; Rodio & Holmes, 2017).

Cognitive impairment can induce stress and anxiety among aging adults. While the progression of cognitive loss will not stop, dance therapy interventions have shown to help with the stress and anxiety surrounding the cognitive loss and helping with the acceptance of it (Alpert et al., 2009; Hwang

& Braun, 2015). In one study, researchers wanted to implement a dance movement intervention in the community and see if the intervention could reduce stress and assist with stress management (Bräuninger, 2012). The research team selected eleven dance therapists, who recruited 162 men and women (race/ethnicity was not specified) experiencing moderate to high levels of stress. The participants were split into twelve dance therapy groups and nine control groups. The interventions were held for ten sessions over three months, with 90-minute sessions per week. The interventions were structured to the needs of the participants, as well as the teaching style of the therapists (Bräuninger, 2012). Stress levels and management were assessed through self-evaluated questionnaires throughout the three months. The results showed that stress levels decreased and overall mental health improved in all the dance therapy groups, compared to the control groups (Bräuninger, 2012). This research study revealed a way that a dance therapy intervention can improve mental health by decreasing stress levels, however, because the racial and ethnic demographics of the participants were not disclosed, race/ethnic disparities in intervention benefits cannot be assessed.

Stress, anxiety, and declines in cognition are not the only mental health conditions older adults experience. More than 50% of older adults battle mood disorders, such as depression. Depression can affect a person in various areas of their life (e.g., work, family/friends, community groups) and can cause disability, which can, unfortunately, lead to suicide (CDC, 2018c; Vankova et al., 2014; Vadineia da Silva et al., 2016). Depression risk is high within the Black community. With Black people dealing with racism, the accumulation of discrimination, and prejudice instances, all of this can lead to depression (Allman et al., 2011; CDC, 2017a; U.S. Department of Health and Human Services, 2001). However, dance therapy interventions can combat and assist with depression and depressive symptoms (U.S. Department of Health and Human Services, 2001; Lin, et al., 2009; Marks, 2015; MDVIP, 2008; Murrock & Graor, 2014; Vankova et al., 2014). In one study, a research team wanted to view the impact

of a dance intervention on depression amongst older adults. Vadineia da Silva et al. (2016) used semi-structured interviews with twelve older adults between the ages of 60 and 71 in a city in Brazil. These interviews focused on participants' opinions about dance, dance programs, and possibly participating in one in the community. The interviews revealed that older adults (both men and women) believed that dance in their experience created and strengthened relationships and social ties. The interviews also revealed dance as an outlet of expression for some and improved many of the participants' overall mood on life; therefore, minimizing depression-like symptoms (Vadineia da Silva et al., 2016). While this dance intervention received positive feedback from its' participants in their interviews about how a dance intervention can decrease depression, this research was conducted in Brazil, a predominantly Latin community limiting generalizability to other racial/ethnic groups. Considering the high risk of depression within the Black community, including Black participants in research of this type, is critical.

Older adults who lack socialization skills or opportunities, tend to be more depressed than older adults who socially interact with others often and have a support system (Haboush et al., 2006; Murrock & Graor, 2014). One consequence of depression is social isolation, which is a theme among some older adults in the community. Social isolation can be the result of a lack of a social support system (Haboush et al., 2006; Murrock & Graor, 2014).

Social support can be seen in the form of family, friends, neighbors, religious and community groups (Alpert, 2009; Lindner, 1982; Murrock et al., 2009). Black people tend to have large families, which support one another. With their large social and family networks, they become caregivers for the elders in the family. For many Black families, caregiving is considered an expression of love, respect, and commitment. For older Black adults, this type of support system is intergenerational and includes many individuals, such as children, grandchildren, siblings, cousins, etc. (Amankwaa, 2017; Apesoa-Varano et al., 2015). Families can also be found within churches. Religion and church often serve as informal

social support systems for Black people (e.g., prayer groups, small groups, ministries, etc.). Black people typically have praise dancing within the church and can be seen with the children, as well as with the adults (Apesoa-Varano et al., 2015; Bennet et al., 2014; Gelman et al., 2014). Allowing more dance therapy interventions to be held within churches can expand the outreach for aging Black adults (Murrock & Gary, 2010).

Some dance therapy interventions focus on socialization with older adults within the community. Lin et al. (2008) selected fifteen members from the Walker Senior Club, which is an adult daycare program. The study was conducted for twelve weeks. There were two groups: the interventional group (eight adults and participated in the Dancing Heart Program (DHP)) and the comparison group (seven adults, excluded from the DHP). The DHP was held once a week, with 90-minute dance sessions. The first hour consisted of dance and the last half hour was reminiscence, with different topics each week (Lin et al., 2008). Functional Fitness Assessment (FFA) and Life Satisfaction Scale (LSS) were used to measure physical and emotional functioning. The interventional group was interviewed by the researcher. Seventy-five percent of the interventional group participants felt happier after the dance program. Emotional satisfaction was achieved. Roughly 87% of the participants appreciated the social interactions because many made friends (Lin et al., 2008). Within this study, over 80% of the participants created social ties and relationships amongst peers within the community. This study was able to lower the rates of social isolation within this particular community for both men and women; however, the racial/ethnic makeup of the participants was not disclosed. This study was able to improve socialization among 80% of their participants, but without the knowledge of knowing the demographics of the people it helped, the researchers are unable to generalize their findings to all racial/ethnic groups. It is plausible that dance therapy interventions could decrease social isolation among older Black adults

by increasing communal relationships; which is a shared value within the Black community (Malone, 1996; Palo-Bengtsson et al., 2003; Ward, 2007).

While some research studies lack the inclusion of Black older adults, it seems reasonable that a community-based dance therapy intervention can improve physical activity and social well-being. A dance therapy intervention can include the moderate-intensity levels of physical activities aging adults need to help reduce their risks of stroke and depression by lowering stress and anxiety (Alpert et al., 2009; Bräuninger, 2012; Hwang & Braun, 2015).

Previous research has consistently indicated that dance therapy interventions can improve physical and mental health. However, some research studies lack the participation and/or mention of Black older adults in their methods and results (Adam et al., 2016; Alpert et al., 2009; Bräuninger, 2012; Haboush et al., 2006; Hwang & Braun, 2015; Krishnan et al., 2015; Lin et al., 2008; Noice et al., 2014; Palo-Bengtsson et al., 2003; Rodio & Holmes, 2017; Vadineia da Silva et al., 2016). With limited information on participant demographics, such as race/ethnicity, determining the effectiveness of or preferences for dance therapy interventions among aging racial/ethnic minorities (i.e., Black older adults) is challenging. Preferences about dance can be the catalyst for encouraging more aging Black/African Americans to view dance as a form of exercise, which can positively influence physical and mental health. Preferences such as the style of dance and location can give aging Black adults a voice in taking control of their overall health.

Moreover, preferences and positive attitudes about dance, such as the desire to engage for health reasons, or preferred style, location, or class size, could all be linked to utilization among this target population. Although there is limited research that explicitly details the effectiveness of dance therapy interventions specifically for Black older adults, it has been demonstrated in previous community interventions that some interventions can be more effective for certain racial/ethnic groups. Researchers

have identified that teaching cultural-specific dance forms, such as African dance can give participants a sense of pride of the culture (Lukach et al., 2016; Murrock & Gary, 2010; Olvera, 2008; Siljamäki et al., 2014). Within two articles, the dance therapy interventions were explicitly created for Black women. The Black women selected the gospel songs for the dance sessions, which gave them a sense of inclusion in the development of the intervention (Murrock & Gary, 2010; Murrock et al., 2009). Including the preferences and opinions of the creation of behavioral interventions, such as dance therapy interventions can increase the motivation of future participants to engage in dance activities for their overall health. This can impact the effectiveness and efficacy of dance therapy interventions on physical and mental health outcomes (Allman et al., 2011; Dilworth-Anderson, 2011).

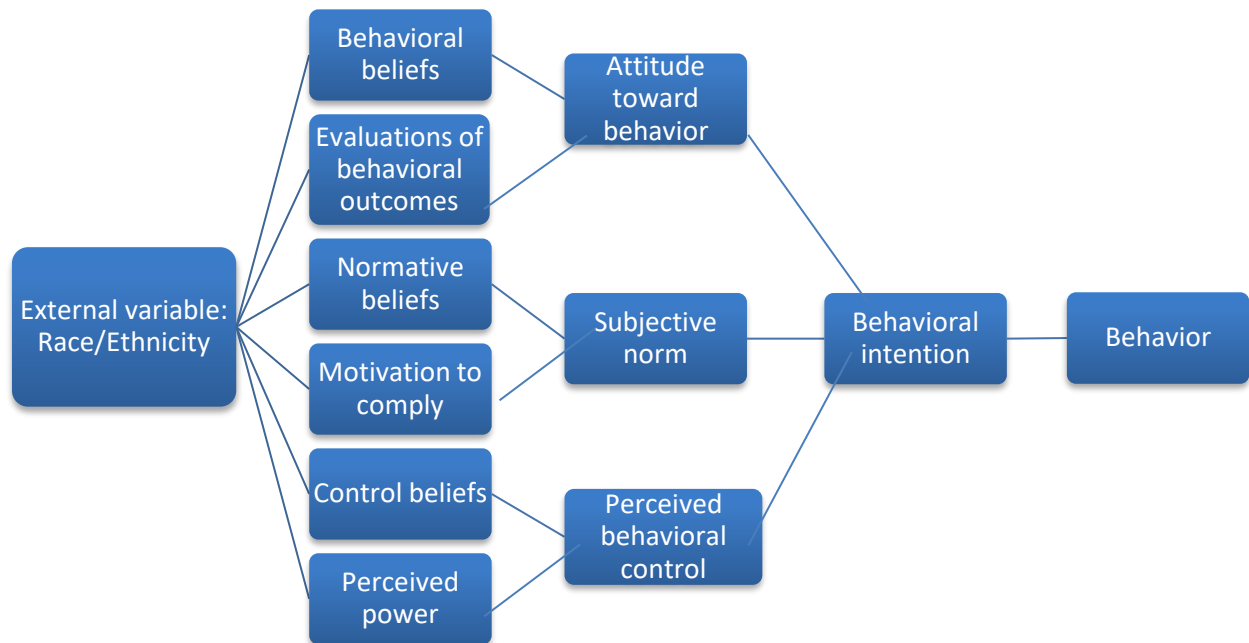
### **2.3 Health behavior theory**

Behavioral interventions, such as dance therapy interventions are often developed based on a specific behavior theory (Gitlin & Czaja, 2016). The Theory of Planned Behavior (TPB) is a theoretical construct that focuses on the beliefs, attitudes, and intentions of people and their current (and potential) behaviors (Glanz, Rimer, & Viswanath, 2015; U.S. Department of Health and Human Services, 2005). The TPB hypothesizes that performing a behavior is directly correlated between a behavioral intention and a person's attitude (U.S. Department of Health and Human Services, 2005). Specifically, the attitude that one has about a specific behavior is dictated by their beliefs about performing the behavior and the consequences of the behavior (see Figure 1) (Ajzen, 1991). The attitude that one has about engaging in a dance therapy intervention can determine whether they believe that dance has the capability of improving their physical and mental health. Beliefs, attitudes, and intentions of an individual causes an effect on the intended behavior, such as engaging in a dance therapy intervention (see Figure 1) (Ajzen, 1991; Glanz et al., 2015; U.S. Department of Health and Human Services, 2005). Race/ethnicity can also shape the beliefs, attitudes, and intentions of an individual engaging in a dance therapy intervention.

For some races/ethnicities, dance has historical and cultural connections. These connections allow people to relate to others within the community and express their shared values of spiritual and communal growth and friendship (Amin, 2011; DeFrantz, 2002; Malone, 1996; Ward, 2007).

In addition, subjective norm (Figure 1) directly influences the intention of an individual to engage in a behavior. Subjective norm states that individuals look for the approval or disapproval, (e.g., social pressure from others) to perform behaviors. Subjective norm is influenced by normative beliefs (i.e., perceived expectation of an individuals' social network) and the motivation to comply (Ajzen, 1991; Glanz et al., 2015; U.S. Department of Health and Human Services, 2005). For instance, a local activity center may start offering dance classes for all experience levels and ages. An older woman may look for the approval or disapproval from her friends to attend the dance classes (subjective norm), if 1) her friends expect her to attend because she has a dance background (normative belief) and 2) she is inspired to attend because of the style of dance being offered (motivation to comply).

**Figure 1 Theory of Planned Behavior (Ajzen, 1991)**



TPB also argues (Figure 1), that individuals have perceived behavioral control (i.e., control of beliefs combined with perceived power) over behaviors (Ajzen, 1991). This means that in certain situations, individuals may not have complete free control over their behaviors due to external barriers (i.e., factors influencing the situation) and behavior is out of their control (Glanz et al., 2015; U.S. Department of Health and Human Services, 2005). For example, individuals may want to engage in physical activity, (e.g., dance), however certain external barriers may hinder their ability to participate. Barriers may include unsafe neighborhoods (i.e., the location of community centers where dance classes are held), lack of transportation to dance classes, lack of time (e.g., work, caregiver), and lack of motivation (CDC, 2017b). Based on this theoretical perspective, it is plausible that beliefs, attitudes, and intentions may impact willingness to engage in a dance therapy intervention. Moreover, external factors such as race/ethnicity can yield positive beliefs, attitudes, and intentions of engaging in a dance therapy

intervention because of historical experiences and influences that dance has had within the Black culture.

## **2.4 Objective and research questions**

Considering the potential physical (e.g., weight loss, reduction in risks of illness/diseases, physical activity), mental (e.g., self-esteem, sense of freedom, joy, improving/stabilizing cognitive functioning, stress reduction), and social (e.g., social ties/relationships, reduce social isolation), benefits associated with dance therapy, a culturally appealing community-based dance therapy intervention could yield positive health outcomes for Black older adults. However, it is unclear if aging Blacks would engage in a dance therapy intervention specifically for physical and mental health benefits. Therefore, further research is warranted to understand the perceptions and preferences of older Blacks as it pertains to engaging in dance for health promotion. Therefore, the primary objective of this study is to determine Black older adults' preferences and perceptions about dancing in general as well as specifically for physical and mental health benefits. Specifically, this study will address the following research questions:

- 1) Among aging Black adults, what are the beliefs and preferences about dancing?
- 2) Among aging Black adults, what are the beliefs and attitudes about participating in a dance therapy program specifically for physical and mental health benefits?
- 3) What are the intentions to participate in dance therapy interventions specifically for physical and mental health benefits among aging Black adults?
- 4) What are the structure and delivery preferences for a community-based dance therapy intervention?

### 3 RESEARCH METHODS

The objective of this study was to identify the preferences and perceptions of dancing in general and dancing for physical and mental health benefits among Black older adults.

#### 3.1 Participants

The study used a non-probability convenience sample of 36 community-dwelling Black adults age 50 years and older. They were recruited from multi-purpose senior centers in three cities in the Atlanta Metropolitan Region (i.e., Atlanta, College Park unincorporated Scottdale), in a one-time in-person semi-structured survey. Due to the exploratory nature of the study design, the sample size was deemed sufficient for reporting descriptive analyses (Gitlin & Czaja, 2016). Eligible participants self-identified as Black/African American, age 50 or older, and had the cognitive ability to complete the research questionnaire independently. Based on the study's focus on dancing for health benefits, the importance of physical activity in preventing and managing chronic conditions (i.e., a salient public health issue), and the disproportionate chronic disease burden experienced by Black/African Americans, the recruitment age was set at age 50 to account for Blacks (i.e., our target population) typically experiencing many conditions around middle-age as opposed to later life like their White counterparts (CDC, 2017).

#### 3.2 Procedure

To recruit community-dwelling aging Black adults, senior centers in the Atlanta Metropolitan area region were contacted via email and telephone to inform them of the study. Senior centers were targeted for recruitment based on demographic data (i.e., serving predominantly Black older adults) and convenience. Communities interested in allowing us to come and recruit participants notified the research team and submitted a formal letter of support. Upon review and approval from the Georgia State University's Institutional Review Board (IRB #H19505), there was a follow-up meeting with the

interested centers to determine the best date and time to visit for participant recruitment. Each center received flyers to post in common areas and to distribute to members of the center. The flyers provided potential volunteers with information on the study (i.e., purpose, eligibility criteria) as well as the date and time that our research team would be present to administer the survey. The center Directors also made an announcement about the study during the week the research team was scheduled to visit the center. This announcement served as a reminder to those who may have been interested in participating. On the agreed-upon scheduled date and time, the research team arrived and met potential study participants in the senior centers' common areas or assigned rooms that were designated by the center administrators. Each potential participant was provided with informed consent. The informed consent was read aloud as each interested participant followed along. Individuals at that time were able to ask questions to the group or the researcher independently. After all the questions were adequately answered, those interested in completing the one-time semi-structured questionnaire signed the informed consent. Upon collecting each informed consent, the participant was provided the questionnaire to complete at their own pace. The research team remained in the room to answer any additional questions, monitor the data collection process, collect completed questionnaires.

### **3.3 Measures**

The instrument used in this research study was a semi-structured questionnaire, including structured and open-ended questions to assess demographics, health status, dance preferences and perceptions, and feasibility (i.e., process satisfaction and acceptability) (Appendix A). Specifically, the open-ended questions provided contextualization to aid in determining the relevance of the quantitative data.

### **3.3.1 Demographics**

Participants' race/ethnicity, age, marital status, education level, gender, and socioeconomic status (SES) were assessed. Race/ethnicity was assessed by asking participants to select their race/ethnicity among a list of choices (i.e., White/Not Hispanic, Black/African American, Hispanic or Latino, Asian, Native American or Other Pacific Islander). As previously stated, the flyers, informed consent, and researchers were thorough in communicating the focus of the study was on aging Blacks (i.e., 50+). However, participants, who self-reported meeting the eligibility (i.e., race, age) and consented to participate, received a questionnaire. The self-report race/ethnicity question substantiated race/ethnicity, with those reporting a race/ethnicity other than Black/African American being dropped from the analysis. Participants were asked to give their date of birth, which was later calculated to determine age in years. Participants were asked to identify their marital status from the following choices: married, living with partner, widowed, divorced, separated, never married. Marital status was later dichotomized (i.e, married and other). Education level was assessed with a 1-item question that asked, "What is the highest grade of school or year of college you have completed?" Choices included Grades 1-12, GED, Vocational, Associate, College Graduate, Some professional schooling, Master's degree, and Doctoral degree. Education level was later dichotomized as less than or equal to high school education and greater than high school education. Gender was assessed with a 1-item question that asked, "What is your gender?" Choices included male, female, and other. SES was assessed based on income. Participants were asked to identify their total annual family income (i.e., wages, pensions, dividends, and any additional household income) by selecting an income starting from less than \$5,000 and increasing incrementally with the final choice being greater than \$100,000. SES was later trichotomized into the following: less than \$5,000 - \$14,999, \$15,000 - \$49,999, and \$50,000 – over \$100,000.

### **3.3.2 *Physical health status***

Physical health status was assessed using two of the standard 4-item Healthy Days Measure from the Behavioral Risk Factor Surveillance System (BRFSS) Questionnaire 2018 (CDC, 2019b). First, participants were asked to rate their health in general with choices ranging from excellent to poor. Next, participants were asked, “Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?” Scores ranged from 0-30 with a higher score indicating worse health (CDC, 2019b). Both measures assess health-related quality of life, which captures one’s perceived health status shaped by experiences, beliefs, culture, and expectations over time. Although a subjective measure of health status, research has found this subjective reporting to be significantly correlated with objective clinical measures of health status and predictive of future health (CDC, 2018b). In addition, participants were presented with a list of 12 chronic conditions that are highly prevalent among older adults and asked to report on whether they had ever been diagnosed with each health problem over their lifespan. Conditions were later summed to determine the total number of comorbid conditions. This approach for assessing comorbidities is widely used in health promotion research focused on chronic disease prevention and management. Disability (i.e., activity limitations) was assessed using a one-item BRFSS question asking participants to respond yes or no to the question, “Are you limited in any way in any activities because of physical, mental, or emotional problems?” (CDC, 2019a).

### **3.3.3 *Mental health status***

Overall mental health was assessed using one question from the BRFSS standard 4-item Healthy Measure (2019b). Participants were asked, “Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?” Scores ranged from 0-30 with a higher score indicating worse health. In

addition, depressive symptoms were assessed using the CES-D scale. The 20-item, self-report scale yields scores ranging from 0-60, with high scores indicating high levels of depressive symptoms (Radloff, 1977).

### **3.3.4 *Dance***

Dance is the main variable of interest in this study. Therefore, various measures are used to evaluate attitudes, beliefs, intentions, and preferences as it pertains to dance. To avoid introducing an issue with implicit bias around the meaning and purpose of dance, we initially used qualitative inquiry to capture the participants' perspective of dance before assessing perceptions, beliefs, or attitudes through pre-established questions. Specifically, participants were asked to define dance in their own words and self-report if they liked dance and discuss why or why not.

Dance engagement included dance frequency, preferred style of dance, and where one found time to dance. Participants were also asked about dance frequency with choices being, "Never, Once a year, A few times a year, Once or twice a month, Once or twice a week, or More than twice a week". The preferred style of dance was measured with an open-ended question. Lastly, determining where dancing customarily took place was assessed by asking participants to look at a list of locations (i.e., church, senior center, family events, home, social clubs, other) and select all that apply.

### **3.3.5 *Potential barriers***

Barriers to dance-engagement were measured by presenting participants with a list of potential barriers (i.e., lack of time, lack of energy, lack of a place to dance, lack of motivation, lack of experience, lack of a partner, lack of physical ability, and fear of injury). Participants were asked to determine if each potential barrier would stop them from taking part in dance-related activities, with choices ranging from rarely or none of the time (i.e., 0) to most or all of the time (i.e., 3) on a 4-point Likert scale. Scores were averaged and higher scores indicated more of a barrier.

### **3.3.6 Behavior (i.e., dancing)**

The TPB defines behavior as the act of performing an action. The action of interest in our study is dance. In accordance with the TPB, behavior was measured by assessing past participation of the behavior and self-report of interest in future participation of the behavior. Using questions adapted from Elliot, Armitage, & Baughan (2003), participants were asked to report on general dance participation within the last year, as well as participation in dance for physical and mental health benefits within the last year. This was assessed using four questions, using an 8-point Likert scale ranging from 0 (never) to 7 (nearly all the time). To gauge interests in engaging in dance, physical and mental health were assessed separately in the latter questions. It is likely that African Americans may engage in an activity for one or the other (i.e., physical or mental health). Therefore, separating these questions affords an opportunity to detect a distinction that may be missed when asked together.

### **3.3.7 Intentions**

Intentions of participating in dance were assessed, using two questions, using an 8-point Likert scale ranging from 0 (extremely unlikely) to 7 (extremely likely). An example question is, "I intend to participate in a dance class for exercise if it is available to me." The questions were adapted from Ajzen (2006) and Hrubes et al. (2001). The responses from the two questions were summed and averaged to produce an overall score for intention. Higher scores indicated a greater intention to engage in dance-related activities for the purpose of exercise.

### **3.3.8 Attitudes**

Attitude is the combination of direct attitude, behavioral beliefs (i.e., benefits and costs), and behavioral outcomes. Direct attitudes about past and current experience with dance were assessed with one question, using an 8-point Likert scale ranging from 0 (extremely unpleasant) to 7 (extremely pleasant). Direct attitudes about how participants viewed dance as a form of exercise were assessed with

one question, using an 8-point Likert scale ranging from 0 (extremely bad) to 7 (extremely good).

Questions about behavioral beliefs were assessed with six questions, using an 8-point scale ranging from 0 (extremely unlikely) to 7 (extremely likely), determined the likelihood that dancing would produce the specific outcomes. Example questions are, “How likely is a dance class to increase social support within the community” and “How likely is a dance class to reduce depression?”) All questions were adapted from Hrubes et al. (2001). Overall attitude was determined by summing and averaging across all eight questions. Higher scores indicated more positive attitudes about experiences of dance and viewing dance as a form of exercise.

### **3.3.9 Subjective norms**

Subjective norm is the combination of direct subjective norm (i.e., family and friends’ approval/disapproval of dance), normative beliefs (i.e., family and friends support), and motivation to comply. Direct subjective norm was assessed by two questions, using an 8-point Likert scale ranging from 0 (definitely false) to 7 (definitely true) of family and friends’ approval or disapproval of the participation in engaging in dance-related activities. An example is, “I believe the people most important to me would approve of me participating in a dance class for exercise.” Normative beliefs were assessed of how likely participants’ support groups (friends and families) encourage and support their participation in dance with two questions, using an 8-point Likert scale ranging from 0 (extremely unlikely) to 7 (extremely likely). An example question is, “How likely are your friends to encourage and support your participation in physical activity, such as dance for exercise?” All questions were adapted from Hrubes et al. (2001). Overall subjective norm was determined by summing and averaging the scores across all four questions. Higher scores indicated higher rates of subjective norms, meaning participants believe that most people and people of importance thinks the participant should engage in dance-related activities for the purpose of exercise.

### ***3.3.10 Perceived behavioral control***

Perceived behavioral control is the combination of direct perceived behavioral control (i.e., confidence levels), control beliefs (i.e., knowledge and skills), and perceived power. Direct perceived behavioral control was assessed with one question, using an 8-point Likert scale ranging from 0 (definitely true) to 7 (definitely false). The question was, “I am confident that if I wanted to, I could participate in a dance class for exercise.” Control beliefs were assessed with two questions, using an 8-point Likert scale ranging from 0 (extremely unlikely) to 7 (extremely likely). Participants determine how likely they are to have the knowledge and skills and how likely they can afford the cost of engaging in dance. An example question is, “How likely are you to afford participating in a dance class for exercise?” All questions were adapted from Hrubes et al. (2001). Overall perceived behavioral control was determined by summing and averaging the scores of all three questions. Higher scores indicated higher confidence levels, as well as knowledge and skills to engage in dance-related activities.

### ***3.3.11 Dance therapy intervention structure and delivery preferences***

Dance therapy intervention structure and delivery preferences were assessed with 12 questions that asked about various elements that could be included in a dance therapy intervention. The questions were modeled after those used in studies to evaluate preferences for arthritis behavioral interventions and bereavement services (Bergman & Haley, 2009; Mingo et al., 2013). Using an 8-point Likert scale (0 = not at all, 10 = definitely), the questions assessed style preferences (e.g., ballroom, jazz, African, line), dosing (e.g., duration, frequency, exposure), delivery modality (e.g., partner-based, group), and location (e.g., senior center).

### **3.3.12 Feasibility**

To assess feasibility (i.e., satisfaction and acceptability), participants were surveyed about their experience in participating in this research study. Specifically, were asked to rate perceived difficulty in responding to the questions, changes in perception of dance as a result of the study, and overall satisfaction with the experience on a scale from 0 (not at all) to 7 (extremely or definitely). Additionally, three open-ended questions were included to capture ideas or important questions that we may not have included or should not have included.

## **3.4 Data analysis**

SPSS 25 (IBM Corporation, 2017) was used to analyze the data in this study. An exploratory data analysis was conducted to identify any missing data, outliers, or errors within the sample. While missing data did emerge as a challenge, missing values were replaced using mean-imputation (i.e., the mean of the non-missing observations) to preserve the sample size. Mean imputation is a sound way to address the missing data in that the mean of the variable being studied is preserved. Additionally, this approach is acceptable in an exploratory research study where the focus is on descriptives (e.g., mean estimation). Demographic and nominal variables were not included in the mean imputation calculations. Next, descriptive analyses were conducted to provide variable frequencies, mean, and standard deviations on all variables. In an effort to look at preliminary associations between the predictor variables (i.e., intentions, attitudes, subjective norms, and perceived behavioral control) and the outcome variable (i.e., dancing for physical activity) bivariate correlations were conducted. Specifically, we conducted a Pearson product-moment correlation between the four predictor variables and each variable representation of the behavior, dance. As previously mentioned, four questions were included to capture the likelihood of one engaging in dance and dance for physical activity (i.e., dancing in the past year, dancing in the past year for physical activity, interest in dance for mental health benefits, and interest in

dance for physical health benefits). Although the study's sample size is small, if the degrees of freedom is larger than 25, failure to meet the assumption of normal distribution has limited consequences thus making bivariate analyses a suitable preliminary test of association for this exploratory study. Cohen's effect size standards were used to evaluate the strength of the association between the variables. Correlation coefficients ( $r$ ) .10 indicate a small association, .30 indicates a medium association, and .50 indicates a large association. While other factors will be important in definitively determining the practical significance of the correlations, applying Cohen's standards aid in evaluating the variable associations beyond that just of statistical significance (Cohen, 1988; Morgan, Leech, Gloeckner, & Barrett, 2013). Lastly, a thematic analysis was used to analyze the responses to the open-ended survey questions to identify themes or patterns that emerge.

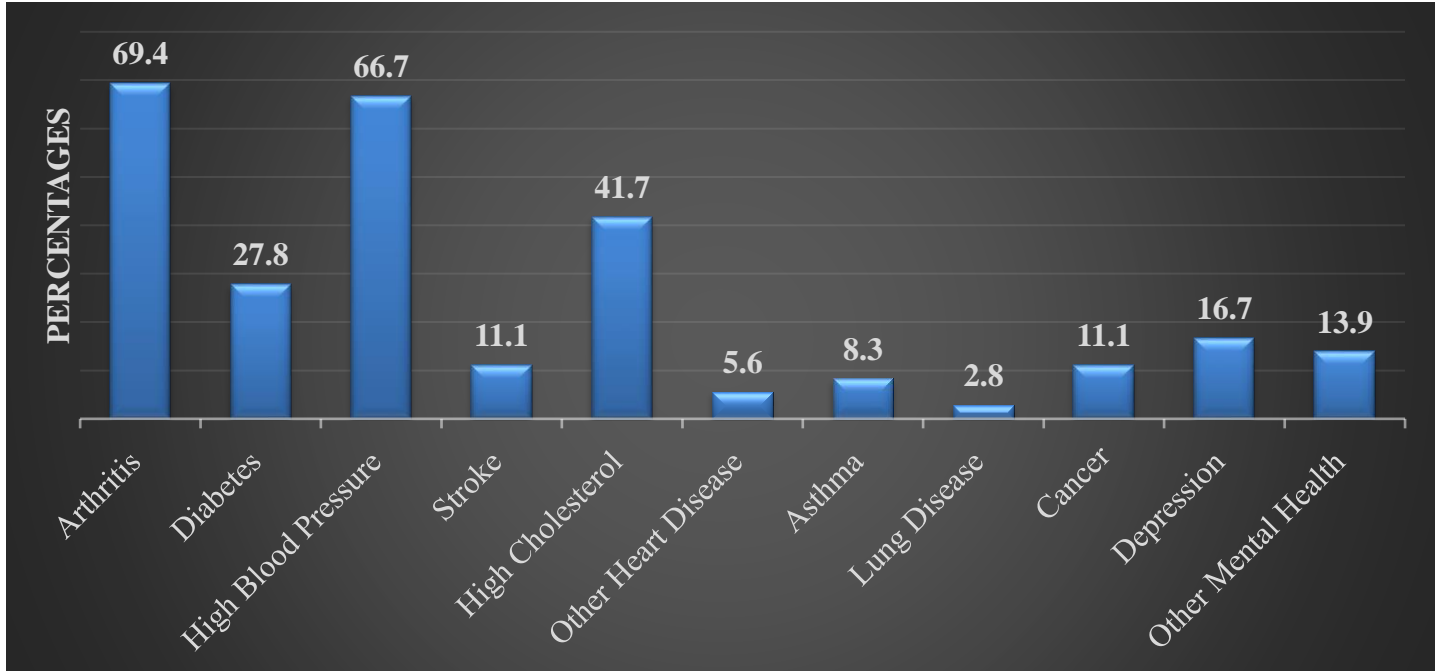
## 4 RESULTS

### 4.1 Descriptive characteristics

Participant demographic information is presented in Table 1.1 to provide an overview of participants' age, gender, education level, marital status, income, general, physical, and mental health status, the depression scale (CES-D), disability, and chronic diseases. The majority of the participants were women, with high levels of education (at least a high school degree). While the overall health of the participants was self-reported, almost 50% of the participants stated their health as "very good" with low levels of self-reported disabilities and chronic conditions. However, the average amount of chronic conditions for our participants was roughly 3, with arthritis, high blood pressure, and high cholesterol being among the most prevalent (Figure 2).

**Table 1 Demographics**

<b>Variable</b>	<b>N</b>	<b>Mean (SD)</b>
<b>Age</b>	27	71.18 (7.25)
<b>Gender (%)</b>		
<b>Men</b>	1	2.8
<b>Women</b>	30	83.3
<b>Education (%)</b>		
<b>High school or less</b>	9	25.0
<b>More than High School</b>	25	69.4
<b>Marital status (%)</b>		
<b>Married</b>	6	16.7
<b>Other</b>	27	75.0
<b>Income (%)</b>		
<b>&lt; \$5,000 – 14,999</b>	6	16.7
<b>\$15,000 – 49,999</b>	7	19.4
<b>\$50,000 – ≥100,000</b>	4	11.1
<b>General health (% Very good)</b>	17	47.2
<b>Disability (%yes)</b>	14	38.9
<b>Disability (healthy days: physical)</b>	33	4.45 (8.52)
<b>Disability (healthy days: mental)</b>	32	3.16 (7.72)
<b>Disability (healthy days: physical &amp; mental health)</b>	33	1.24 (3.38)
<b>CES-D</b>	21	8.33 (8.22)
<b>Chronic conditions</b>	23	3.39 (2.17)



**Figure 2 Chronic Conditions - Prevalence Rates**

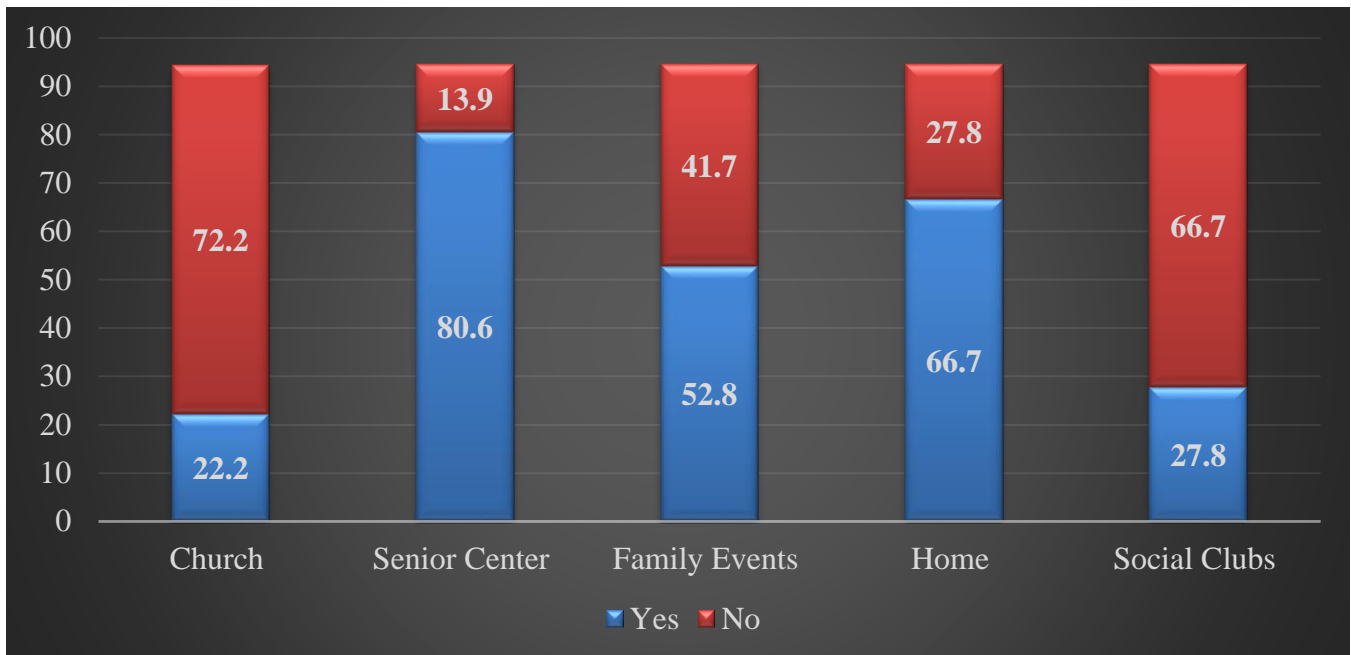
#### **4.2 Dance and Dance Engagement**

Participants were asked to define dance in their own words. Analysis of this open-ended question resulted in three key themes. Dance was defined as 1) body movement to the rhythm/music, 2) exercise, and 3) creative expression of the soul that could result in joy, relaxation, and spiritual benefit. Without any additional context, the majority of the participants defined dance as movement to music or a steady beat. Notably, defining dance as a form of exercise was a common theme amongst the answers from the question, “In your words, how do you define dance.” Given the choices of yes or no, each participant (N=36) reported that dance was something they liked to do. Participants were able to expound upon the dichotomized response choices through an open-ended survey item. Similar to the definition of dance, themes that emerged in response to why the participants liked dance included, 1) it brings joy, relaxation, and feeling of positivity and, 2) it is a form of exercise. An additional salient response that

emerged from this question was that while dance was something that all participants liked to do, many reported being unable to dance due to health challenges and disability.

More than half of our sample expressed that engaging in dance was a common occurrence. Approximately, 31% stated that they danced one or twice a week and another ~ 28% indicated engaging in dance more than twice a week. Furthermore, barriers to engaging in dance were consistently rated low, indicating that participants did not perceive the potential barriers listed as an extreme obstacle. Notably, a lack of physical ability was rated at the greatest barrier to participation, yet the average score across the sample was still relatively low ( $M = 1.04$ ;  $SD = 1.07$ ).

Figure 3 provides information on where people found time to dance. The most popular locations in which people found time to dance were at senior centers and at home. Church was actually the least popular location for dancing in our sample. Three participants also selected “other” as a location in which they found time to dance. This response came with the option to write-in what that other location may have been (i.e., a location not listed previously as a response option). Of those three participants, no one provided a specific location but gave the response of “anywhere”. Additionally, no one style of dance truly emerged as a salient preferred style of dance. Preferred dance styles included the following; any style of dance, line dancing, two-step, ballroom, hip-hop, old school, soca, Latin, spiritual, and rock and roll.



**Figure 3 Dance Locations**

As previously stated, dance is an activity (i.e., behavior) that is valued among this sample.

Within the last year, participants danced for fun ( $M=5.16$ ,  $SD = 1.8$ ) and for physical and mental health reasons ( $M = 4.79$ ,  $SD = 2.11$ ). Participants also reported a willingness to take part in a dance class as a regular form of exercise for physical ( $M= 5.70$ ,  $SD = 1.89$ ) and mental ( $M =5.01$ ,  $SD = 2.44$ ) health benefits. Overall, participants had positive beliefs, attitudes, and intentions about participating in dance (specifically dance therapy), for physical and mental health benefits. Explicitly, participants reported high levels of intention to engage in dance class for exercising ( $M= 6.00$ ,  $SD = 1.74$ ). Positive attitudes about dance and dance as a form of physical activity were also expressed ( $M = 6.24$ ,  $SD = .71$ ). There was a perception that most people in general and people of importance would encourage engaging in dance class for the purpose of exercise (i.e., subjective norms;  $M=6.23$ ,  $SD = 1.04$ ). Lastly, considerable levels of confidence, knowledge, and skills (i.e., perceived behavioral control) concerning dance and benefits of dance were present ( $M=6.00$ ,  $SD=1.15$ ).

To examine the association between beliefs, attitudes, and intentions and dance (i.e., willingness to engage in therapy for health benefits), Pearson bivariate correlation analyses were conducted. Four individual indicators for dance (i.e., the behavior of interest) were included (see Methods sections for additional details). Results are presented in Table 2. When dance was measured by asking about participation in dance in general within the last year, only attitude was significantly associated with dance ( $r(34) = .41, p = .01$ ); the more one participated in dance in general (e.g., for fun) within the last year the more positive their attitude would be about dancing specifically for exercise. Using Cohen's guidelines (Cohen, 1988), there is a medium relationship between dance and attitudes. However, when dance was measured by asking about participation in the behavior for physical and mental health reasons within the last year, there was a significant association across attitudes, beliefs, and intentions. Specifically, an increase in dancing as a form of exercise for one's health within the last year was significantly associated with a more positive attitude ( $r(34) = .51, p = .001$ ), higher rates of subjective norms ( $r(34) = .48, p = .01$ ), higher rates of perceived behavioral control ( $r(34) = .55, p = .00$ ), and greater intentions ( $r(34) = .41, p = .01$ ) to engage in a dance class for exercise. The strength of the association ranges from medium to large. These associations remain statistically significant when dance is measured in terms of one's interest in participating in a future dance class as regular form of exercise for physical and mental health benefits (independently). When using this particular measure of dance, the strongest association is between the behavior and intentions ( $r(34) = .76, p = .00$ ; ( $r(34) = .61, p = .0$ ); physical health and mental health) indicating that interests in participating in a dance class for exercise is strongly associated with greater intentions to do so.

**Table 2 Bivariate Correlations**

<b>Behavior (i.e., Dance)</b>	<b>Theory of Planned Behavior Constructs</b>			
	<b>Attitude</b>	<b>Subjective Norm</b>	<b>Perceived Behavioral Control</b>	<b>Intention</b>
<b>Dance for fun within last year</b>	.41*	.23	.30	.28
<b>Dance for physical and mental health w/in last year</b>	.51**	.48**	.55**	.41**
<b>Interested in dance for physical health</b>	.56**	.74**	.65**	.76**
<b>Interested in dance for mental health</b>	.37*	.49**	.39*	.61**

\*Correlation is significant at the 0.05 level (2-tailed).

\*\*Correlation is significant at the 0.01 level (2-tailed).

Regarding dance therapy structure and delivery preferences, participants seemed to be open to a variety of components that could be used in a dance program designed to engage individuals in increased physical activity for health benefits. Table 3 provides structure and delivery preferences of dance genres and styles. Notably, the most preferred dance style was line dancing. Table 4 provides preferences for dance class structure and delivery type. The most preferred components were having a dance class offered at a local senior center, once a week, in a group setting that incorporates line dancing.

**Table 3 Structure and delivery preferences of dance styles**

<b>Variable</b>	<b>Mean (SD)</b>
<b>African dance</b>	5.19 (2.01)
<b>Ballroom dancing</b>	4.60 (2.12)
<b>Contemporary/modern dancing</b>	5.00 (1.99)
<b>Hip Hop dance</b>	4.00 (2.41)
<b>Jazz dance</b>	5.03 (2.09)
<b>Line dancing</b>	5.78 (1.83)
<b>Praise or liturgical dance</b>	4.55 (2.46)

**Table 4 Structure and delivery preferences**

<b>Variable</b>	<b>Mean (SD)</b>
<b>Once a week</b>	5.87 (1.21)
<b>Multiple times a week</b>	5.20 (1.63)
<b>Requires a partner</b>	4.19 (2.27)
<b>Offered in a group setting</b>	5.48 (1.80)
<b>Offered at a local senior center</b>	6.06 (1.49)

### 4.3 Feasibility

Regarding the feasibility (i.e., satisfaction and acceptability) of the study, participants reported being highly satisfied with the research study experience ( $M = 5.56$ ,  $SD = 1.61$ ). Additionally, in regard to the question, “Did you find it difficult to understand and answer the questions?” there was limited difficulty in understanding or completing the survey ( $M = 1.57$ ,  $SD 2.06$ ). Also, did not result in participants thinking differently about dance. There were very few responses to the open-ended questions. However, one participant preferred that we had asked about ethnic dances such as salsa and belly dancing. Another participant thought it would have been helpful to include information specific to a person’s chronic condition (e.g., dancing for people with arthritis). Dance should be offered more often and dance is important for the health of seniors were two additional comments that participants wanted to share with our study team. While participants were satisfied with their experience which was communicated in responses on the questionnaire and in-person to the research study team, there were components of the questionnaire that were considered unacceptable and may have even angered participants. Specifically, it was stated, in-person to the research study team and in a few of the responses on the survey, questions around income and education were inappropriate and “none of our business.”

## 5 DISCUSSION

In this study, we assessed current dance behaviors among Black older adults. Additionally, we sought out to understand the perceptions and preferences around dance and dance therapy as a mechanism for engaging in physical activity. Dance has been deeply rooted within the rich tapestry of the Black culture for generations. It continues to serve as an activity that leads to social connectedness, freedom of expression, and active engagement in the community (Amin, 2011; DeFrantz, 2002; Malone, 1996; Unruh, 2011). A key component of this study was thinking about how this essential component of the culture may influence current beliefs and attitudes about dance. Therefore, this study focused on understanding and describing attitudes, intentions, beliefs, and preferences for engaging in dance to increase physical activity and improve overall health. More importantly, finding novel and potentially effective ways to engage Black older adults in physical activity has significant public health implications. Yet, we know little about preferences for types of physical activity that may yield greater and sustainable involvement among this target population.

When the participants were asked to define dance in their own words, themes such as body movements to the rhythm of music, exercise, and creative and emotional expression surfaced. While many Black older adults are not exercising enough, according to the levels of recommended exercise engagement (Murrock et al., 2009; Olvera, 2013), all of our study participants acknowledged that they actively dance; some multiple days a week. So, if they define dance as a form of exercise and dance at least 2-3 days a week, it is highly likely that physical activity recommendations are being met. However, the discrepancy between our study findings and previous research examining exercise frequency is that for many older Black men and women, they may fail to immediately make the connection between an activity like dance and routine physical activity. It may not be until they are asked specifically to think about dance, all that goes into dance, how they feel about dance that then and only then the connection is

made to it being a regular form of physical activity in which they routinely use. Participants did have positive beliefs and attitudes about engaging in dance classes for physical and mental health benefits.

Many of the participants believed that they had the knowledge and skills (i.e., perceived behavioral control), interest, and support to engage in dance classes for their physical and mental health. Concerning the knowledge, skills, and interest our participants may have high confidence in their knowledge and skills of dance because of the familiarity behind the art of dance. Dance can be seen throughout the Black community and throughout the life course, such as within the home, school, family events, social settings, etc. (Amin, 2011; Malone, 1996; Unruh, 2011). For the participants, they have probably engaged in various formal and/or informal forms of dance within their lifetime and dance maybe seen as another pastime for them. For some Black families, dance is taught within the home at a young age and starts with listening to the music and moving to the rhythm of the beat (Malone, 1996). This may also explain why the participants believed their family and friends would approve of their dance participation (i.e., subjective norm). Support groups such as family and friends can have a big impact on how people view their health and engagement in physical activities and can be utilized in the promotion of dance classes, specifically dance therapy interventions for their loved ones.

While support groups can promote dance therapy interventions, it is essential to understand what is wanted and needed to build a successful and effective dance therapy intervention. While there were many components of dance programs that our participants were open to, some were higher preferred than others. A majority of the participants preferred to have dance classes offered at a local senior center. This is not surprising because over 80% of our participants indicated already engaging in dance-related activities in their local senior centers. Also, participants mentioned that they would engage in dance classes offered once a week, however, over 50% of the participants indicated that they already engage in dance-related activities anywhere between once a week to multiple times a week. With many

of the participants engaging in dance so frequently, it makes the researchers wonder why not use those times of engagement to intentionally focus on improving physical and mental health.

Now, as far as dance styles are concerned, line dancing was highly preferred among the participants. The reasoning may be because line dancing is highly prevalent within the Black community. Line dancing can be seen in celebrations such as birthday parties, family reunions, and weddings (Malone, 1996). It is a way for all generations of a family to come dance together, while forming bonds. Very few of our participants preferred to engage in dance classes if a partner was required. Engaging in dance styles such as line dancing, does not require a partner; everyone dances individually, but as a group.

While line dancing is seen for social aspects, church is prominent in the Black community (Murrock & Gary, 2010; Unruh, 2011). However, praise or liturgical dance for spiritual health was only somewhat preferred among the participants. It is possible that our participants either do not attend church frequently or do not look at aspects of church such as “shouting” to be considered a form of dance (Murrock & Gary, 2010; Unruh, 2011). Also, the dancing style of hip hop was also only somewhat preferred among the participants. This may be so, because of preconceived notions that hip hop is considered for the younger generation (Gittens, 2012; Olvera, 2008).

While these preferences can assist with creating a dance therapy intervention for aging Black adults who already engage in dance-related activities, it does not highlight the structure and delivery preferences from non-dancing individuals, individuals who are limited to engage in dance because of disabilities, socially isolated individuals, as well as aging adults who do not have access to dance programs.

Overall, the participants were highly satisfied with the research study experience, however, there were a few participants who noted how the survey was too long. This may steer future participants away

because of the amount of time spent completing the survey. The majority of the participants did not think differently after completing the survey; which may be the result of prior and current knowledge and engagement in dance-related activities. It was noted that the survey did not include other culturally-specific dance forms such as belly dance and salsa. Also, many of the participants believed the income question to be inappropriate and unnecessary for our research study. This may be because the research team was unable to build a rapport with the participants to gain their trust and open up about the sensitive topic of income. Building a rapport through one-on-one interviews can allow participants to feel safe in disclosing personal information (Dickson-Swift, James, Kippen, & Liamputtong, 2009).

## **5.1 Study limitations**

This study had some limitations, which are worth mentioning. One limitation within this study is bias about dance. All of the participants acknowledged that they enjoy dancing. While this information can create some bias towards the information found within the research survey, it does reflect on the fact that dance still remains prevalent and popular within the Black/African American community, especially with aging Black adults. However, this study did not highlight the preferences and opinions of non-dancing individuals, as well as people with disabilities and the socially isolated. Another limitation was the amount of missing data. This makes it difficult to assess the feasibility and practicality of having a community-based dance therapy intervention. All the physical and mental health answers were self-reported, with a high percentage answering “very good”. This may be because of social desirability bias; the participants reporting what the researchers would prefer to hear. All of the senior center locations a part of this study already provided dance-related activities and classes. This can create some biases from our participants about their knowledge and attitudes about dance, but also shows how aging Black adults who attend senior centers may be the target population for a community based dance therapy intervention.

## 6 CONCLUSION

Dance has been a part of the Black community for generations and used for various reasons, such as creative expression, communication, social bonding, and physical activity. While dance has been primarily focused among the younger generation, it can be beneficial for aging Black adults. Dance can be used as a form of exercise, such as a dance therapy intervention to assist with physical (i.e., obesity, arthritis, high blood pressure) and mental (i.e., depression, stress, anxiety, cognitive declines) health conditions among aging Black/African Americans. In this study, demographics, physical and mental health, dance knowledge, beliefs, attitudes, and intentions, as well as preferences and feasibility were all examined to understand the practicality of creating a community-based dance therapy intervention. There were overwhelmingly positive attitudes, beliefs, and intentions to engage in dance classes if offered, as well as documented preferences for a dance therapy intervention.

Dance was defined as a form of exercise by many of the participants. Therefore, if dance is perceived as an exercise and one that brings joy and other psychosocial benefits as indicated in our findings, why it is that dance therapy is an underutilized approach among this target population. It may be that there is a state of cognitive dissonance prevent making the connection between this exercise that is loved and valued and the exercise needed to improve one's health. With more research from this population (i.e., dancing individuals), as well as non-dancing individuals, a community-based dance therapy intervention could be created to help with the physical and mental health of aging Black/African Americans.

### 6.1 Future directions

Although this is only an exploratory study, this research highlights several preferences from participants for this specific population. Preferences such as frequency of an intervention (i.e., possibly

held once a week), style of dancing (i.e., line dancing or African dance), and location (local senior center). This exploratory study was able to examine the attitudes, beliefs, and intentions from able-bodied aging African Americans.

This study can be further examined with participants from senior centers that do not include dance in the curriculum and/or participants that do not frequently engage in dance altogether. It is plausible that a dance therapy intervention can be birthed from more research, gathering more opinions and preferences from future participants. Future research can look more into qualitative data, such as in-person interviews to gather more concrete and explanatory responses from participants. This would give a clearer understanding of preferences about dance in general from participants and their perceptions about dance as a whole and as a form of exercise for physical and mental health.

This study only obtained data from senior centers in the Atlanta Metropolitan region. However, future research should look into faith-based organization, assisted living facilities, nursing homes, etc. of participants who may or may not engage in dance-related activities.

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## **APPENDICES**

### **Appendix A: Needs Assessment**

# Let's Talk About Dance

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Georgia State University, Gerontology Institute  
2019

**Introduction:**

We are conducting a study to learn about beliefs, attitudes, and preferences that aging African Americans have about dance. We will ask you questions about what you think about dance and your experience with dance. We would also like to learn about your health and healthcare choices. You will be asked about your physical and mental health status, health behaviors, and healthcare decisions. This information will help us understand the activity, health, and healthcare needs of aging African Americans as well as help us identify ways to improve health and quality of life.

In this questionnaire, I am going to ask you specific questions that we need to find out from everyone. We apologize in advance if some questions seem repetitive, appear to not make sense, or seem obvious. However, all questions are included to ensure we get the most accurate information possible. If there are no questions, we will begin.

This questionnaire is completely voluntary and confidential. If there is a question that you do not want to answer simply skip and move on to the next question. However, it would be helpful to our research if you complete the entire questionnaire. Please do not hesitate to ask any questions at any time during your participation in this project.

Thanks so much for your participation.

If there are no questions, we will begin.

**Please turn to the next page and begin completing the questionnaire.**

**FOR OFFICE USE ONLY:**

NUMBER: \_ \_ \_ \_

DATE: \_ \_ / \_ \_ / \_ \_

LOCATION: \_ \_

## Section A

### Please Start by Telling Me a Little About Yourself:

Could you please tell me your date of birth? \_\_\_ / \_\_\_ / \_\_\_\_\_

(M/D/Y)

1. What is the highest degree or level of school you have completed?  
(Please check only one.)

- |                                  |   |
|----------------------------------|---|
| <input type="checkbox"/> Grade 1 | <input type="checkbox"/> Grade 10   |
| <input type="checkbox"/> Grade 2 | <input type="checkbox"/> Grade 11   |
| <input type="checkbox"/> Grade 3 | <input type="checkbox"/> Grade 12   |
| <input type="checkbox"/> Grade 4 | <input type="checkbox"/> GED  |
| <input type="checkbox"/> Grade 5 | <input type="checkbox"/> Vocational training/<br>Some college after high school |
| <input type="checkbox"/> Grade 6 | <input type="checkbox"/> Associate Degree                                       |
| <input type="checkbox"/> Grade 7 | <input type="checkbox"/> College Graduate                                       |
| <input type="checkbox"/> Grade 8 | <input type="checkbox"/> Some professional school after completing<br>college   |
| <input type="checkbox"/> Grade 9 | <input type="checkbox"/> Master's Degree  |
|                                  | <input type="checkbox"/> Doctoral Degree (Ph.D., MD, EdD, JD, etc.)             |

2. What is your current marital status? (Please check the box)

- |                                   |  |  |
|-----------------------------------|--|--|
| <input type="checkbox"/> Married  | <input type="checkbox"/> Living with partner | <input type="checkbox"/> Widowed       |
| <input type="checkbox"/> Divorced | <input type="checkbox"/> Separated           | <input type="checkbox"/> Never Married |

## Section B

**The next set of questions will ask you about dance and dance-related activities. Please be open and honest. Answer each question to the best of your ability.**

1. In your own words, how do you define dance?

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2. Is dancing something that you like to do?

Yes

No

Please explain why or why not.

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3. How often do you dance?

Never **(SKIP TO Section C)**

Once a year

A few times a year

Once or twice a month

Once or twice a week

More than twice a week

4. What is your preferred style of dance? \_\_\_\_\_

5. Where do you find time to dance? (Please Check ALL that Apply)

- Church
- Senior center
- Family events
- Home
- Social clubs
- Other (please specify) \_\_\_\_\_

## Section C

The next few questions are about barriers that may prevent you from participating in any dance-related activities. Please read each question and check the box that best applies to you. Please be open and honest. There is no right or wrong answer.

Which of the following would you say would stop you from taking part in dance-related activities?

	Rarely or None of the Time	Some or a Little of the Time	Occasionally or a Moderate Amount of the Time	Most or All of the Time
Lack of Time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of Energy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of a Place to Dance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of Motivation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of Experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of a Partner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of Physical Ability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Fear of Injury	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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## Section D

The next set of questions will ask you about the status of your physical and mental health. Please be open and honest. Answer each question to the best of your ability. Please select the answer that applies to you.

1. In general, would you say your health is? **(Please check the box)**

- Excellent
- Very Good
- Good
- Fair
- Poor

2. Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?

\_\_\_\_\_ Number of Days

3. Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

\_\_\_\_\_ Number of Days

4. During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

\_\_\_\_\_ Number of Days

5. Are you limited in any way in any activities because of physical, mental, or emotional problems? **(Please check the box)**

Yes

No

## Section E

**The next section will include questions about chronic diseases. Please be open and honest in your responding.**

6. Has a doctor, nurse, or other health professional EVER told you that you had any of the following? Please answer Yes or No for each disease. **(Please check the box for each condition)**

	YES	NO
Arthritis	<input type="checkbox"/>	<input type="checkbox"/>
Diabetes or High Blood Sugar	<input type="checkbox"/>	<input type="checkbox"/>
High Blood Pressure	<input type="checkbox"/>	<input type="checkbox"/>
Stroke	<input type="checkbox"/>	<input type="checkbox"/>
High Cholesterol	<input type="checkbox"/>	<input type="checkbox"/>
Other Heart Disease	<input type="checkbox"/>	<input type="checkbox"/>
Asthma	<input type="checkbox"/>	<input type="checkbox"/>
Chronic Lung Disease	<input type="checkbox"/>	<input type="checkbox"/>
Chronic Kidney disease	<input type="checkbox"/>	<input type="checkbox"/>
Cancer	<input type="checkbox"/>	<input type="checkbox"/>
Depression	<input type="checkbox"/>	<input type="checkbox"/>
Anxiety or other Mental Health Condition	<input type="checkbox"/>	<input type="checkbox"/>

7. How often during the **PAST WEEK** would you have made the following statement about yourself? (**Please check the box that best applies to you**)

**The choices for each statement below are as follows;**

- **Rarely or none of the time (less than one day)**
- **Some or little of the time (1-2 days)**
- **Occasionally or a moderate amount of time (3-4 days)**
- **Most or all of the time (5-7 days)**

So during the **past week** would you say,

	<b>Rarely or None of the Time</b>	<b>Some or a Little of the Time</b>	<b>Occasionally or a Moderate Amount of the Time</b>	<b>Most or All of the Time</b>
I was bothered by things that usually don't bother me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I did not feel like eating; my appetite was poor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt that I could not shake off the blues even with help from my family or friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt that I was just as good as other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I had trouble keeping my mind on what I was doing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt depressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt that everything I did was an effort.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt hopeful about the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I thought my life has been a failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I felt fearful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My sleep was restless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I was happy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I talked less than usual.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt lonely.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People were unfriendly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I enjoyed life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I had crying spells.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt sad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I felt that people dislike me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I could not get going.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**TURN TO THE NEXT PAGE**

**Section F**

Now, we will ask you some more questions about dance. Some of the questions may seem similar, but they do address somewhat different issues.

The next set of questions use a rating scale from 0-7. Please read each question carefully and check the box for the number that best describes your opinion.

For each question, Please **DO NOT** check more than one box. There is no right or wrong answer.

1. Within the last year, have you participated in dance for fun such as dancing with friends or family, dancing at social outings or community centers, and/or taking a dance class?

**Never** 0 1 2 3 4 5 6 7 **Sometimes** **Nearly all the Time**

\*\*\*\*\*

2. Within the last year, have you participated in dance for physical and mental health reasons such as specifically for exercise?

**Never** 0 1 2 3 4 5 6 7 **Sometimes** **Nearly all the Time**

\*\*\*\*\*

3. I would be interested in participating in a dance class as a regular form of exercise for physical health benefits.

**Not at All** 0 1 2 3 4 5 6 7 **Somewhat** **Definitely**

\*\*\*\*\*

4. I would be interested in participating in a dance class as a regular form of exercise for mental health benefits.

**Not at All**

**Somewhat**

**Definitely**

0 1 2 3 4 5 6 7

\*\*\*\*\*

5. I intend to participate in a dance class for exercise, if it is available to me.

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0 1 2 3 4 5 6 7

\*\*\*\*\*

6. I plan to participate in a dance class for exercise on a regular basis.

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0 1 2 3 4 5 6 7

\*\*\*\*\*

7. How has your experience been with dance?

**Extremely Unpleasant**

**Neither**

**Extremely Pleasant**

0 1 2 3 4 5 6 7

\*\*\*\*\*

8. How do you view dance as an exercise?

**Extremely Bad**

**Neither**

**Extremely Good**

0 1 2 3 4 5 6 7

\*\*\*\*\*

9. I believe the people most important to me think I should participate in a dance class for exercise?

**Definitely False**

**Neither**

**Definitely True**

0   1   2   3   4   5   6   7

\*\*\*\*\*

10. I believe the people most important to me would approve of me participating in a dance class for exercise?

**Definitely False**

**Neither**

**Definitely True**

0   1   2   3   4   5   6   7

\*\*\*\*\*

11. I am confident that if I wanted to, I could participate in a dance class for exercise.

**Definitely False**

**Neither**

**Definitely True**

0   1   2   3   4   5   6   7

\*\*\*\*\*

12. How likely is a dance class to help with weight loss?

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

13. How likely is a dance class to reduce high blood pressure?

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

14. How likely is a dance class to increase social support within the community?

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

15. How likely is a dance class to reduce depression?

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

16. How likely is a dance class to reduce stress and anxiety?

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

17. How likely is a dance class to help with thinking, memory, and attention?

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

18. How likely is your family to encourage and support your participation in a dance class for exercise?

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

19. How likely are your friends to encourage and support your participation in a dance class for exercise?

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

20. How likely are you to have the knowledge and skills to participate in a dance class for exercise?

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

18. How likely are you to be able to afford participating in a dance class for exercise?

**Extremely Unlikely**

**Neither**

**Extremely Likely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

**TURN TO THE NEXT PAGE**

**Section G**

In the past, very little research has asked individuals like you what they like or dislike about dance classes specifically for exercise, or what would encourage you to participate or not participate in such classes.

We are interested in learning about what you would like to see in a dance class designed for you. Please be open and honest. There is no right or wrong answer. Please check the box that applies to you.

**Would you like to attend a dance class for exercise that...**

1. Is offered once a week only

**Not at All**

**Somewhat**

**Definitely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

2. Is offered multiple times a week

**Not at All**

**Somewhat**

**Definitely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

3. Includes Ballroom Dancing

**Not at All**

**Somewhat**

**Definitely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

4. Includes Contemporary/Modern Dance

**Not at All**

**Somewhat**

**Definitely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

**Would you like to attend a dance class for exercise that...**

5. Includes Jazz Dance

**Not at All**

**Somewhat**

**Definitely**

0 1 2 3 4 5 6 7

\*\*\*\*\*

6. Includes Hip Hop Dance

**Not at All**

**Somewhat**

**Definitely**

0 1 2 3 4 5 6 7

\*\*\*\*\*

7. Includes African Dance

**Not at All**

**Somewhat**

**Definitely**

0 1 2 3 4 5 6 7

\*\*\*\*\*

8. Includes Line Dancing

**Not at All**

**Somewhat**

**Definitely**

0 1 2 3 4 5 6 7

\*\*\*\*\*

9. Includes Praise or Liturgical Dance

**Not at All**

**Somewhat**

**Definitely**

0 1 2 3 4 5 6 7

\*\*\*\*\*

10. Requires a Partner

**Not at All**

**Somewhat**

**Definitely**

0 1 2 3 4 5 6 7

\*\*\*\*\*

**Would you like to attend a dance class for exercise that...**

11. Is offered in a group setting

**Not at All**

**Somewhat**

**Definitely**

0 1 2 3 4 5 6 7

\*\*\*\*\*

12. Is offered at the local senior center

**Not at All**

**Somewhat**

**Definitely**

0

1

2

3

4

5

6

7

\*\*\*\*\*

## Section H

1. Which do you feel best describes your race/ethnicity?  
**(Please check the box)**

White (Not Hispanic)

Black/African American (Not Hispanic)

Hispanic or Latino

Asian

Native American or Other Pacific Islander

Other (Please specify)

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2. Were you born in the U.S.? **(Please check the box)**

Yes

No

If No, then at what age did you come to the US? \_\_\_\_\_

3. Is English the primary language spoken at home? **(Please check the box)**

Yes

No

4. What is your gender? **(Please check the box)**

Male

Female

Other (Please specify)

5. Please check the box that best describes your approximate family annual gross income (before taxes and insurance). This should include the following sources; wages, pensions, dividends, and any additional household income. (Please check the box that best applies to you)

Less than \$5,000

\$5,000 - \$9,999

\$10,000 - \$14,999

\$15,000 – \$19,999

\$20,000 - \$29,999

\$30,000 - \$39,999

\$40,000 - \$49,999

\$50,000 - \$59,999

\$60,000 - \$69,999

\$70,000 - \$79,999

\$80,000 - \$89,999

\$90,000 - \$99,999

\$100,000 and over

## Section I

We are almost at the end of the interview. As a part of this research study, we are also interested in learning about how you enjoyed this experience. Please take a few additional moments to let us know about your experience.

1. Overall, were you satisfied with the research study experience?

**Not at All**

**Somewhat**

**Extremely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

2. Did you find it difficult to understand and answer the questions?

**Not at All**

**Somewhat**

**Extremely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

3. Did this research study cause you to start to think about dance in a different way?

**Not at All**

**Somewhat**

**Definitely**

0   1   2   3   4   5   6   7

\*\*\*\*\*

4. Was there anything that you wish we had asked you?

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5. Was there anything that you wish we had NOT asked you?

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6. Are there any additional comments that you think would be helpful as we learn about dance from aging African Americans?

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**Thank you for completing this  
questionnaire!**

**We Appreciate Your Support!**