Positive Mental Well-Being Analysis: Effects of Gender, Age, and Physical Activity

by

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Master of Public Health, California Baptist University, 2022

Thesis Submitted in Partial Fulfillment

of the Requirements for the Degree of

Master of Public Health

California Baptist University

August 2022

The College of Health Science

California Baptist University

Riverside, California
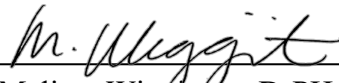

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Abstract

A paramount approach to understanding mental health in communities is via a positive lens that focuses on the absence of a mental illness and steers away from the common, negative aspects of diagnoses and symptoms. Three elements of positive mental health consist of psychological, emotional, and social well-being. Depression is a prevalent mental illness in all cultures and age groups worldwide, and adolescents are a vulnerable age group for experiencing depressive episodes. Physical activity can have numerous targeted effects on individual health, well-being, and mental health. This descriptive cross-sectional study aimed to explore differences in self-reported mental well-being across different age and gender categories and the relationship between moderate physical activity and mental well-being. A sample of 167 participants ages 13 and older were recruited at community-based events to complete an anonymous self-administered online survey in English or Spanish. Qualtrics was used to disseminate the survey and collect responses. The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) was used to measure positive mental well-being because it consists of only positively worded items and measures mental well-being. The International Physical Activity Questionnaire (IPAQ) was also used to measure participants' physical activity levels. Results showed that full WEMWBS scores did not differ across age, gender, or physical activity categories. Upon exploring individual elements of the study, significance was demonstrated across categories.

Keywords: WEMWBS, positive mental health, mental well-being, depression, IPAQ, physical activity, adolescents, Hispanic

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Introduction

Overview of the Literature

In many communities, mental health is viewed through a negative lens. Positive well-being in mental health is another vital dimension for innovations in public health (Tennant et al., 2007). Mental health is often measured using instruments and scales designed to assess mental health conditions and needs through a negative lens to diagnose and treat conditions. To measure constructs of mental health, the instruments usually used cover mental illness and mental health aspects worded in both positive and negative items (Tennant et al., 2007). The use of a positive worded scale is vital for supporting mental health promotion initiatives (Tennant et al., 2007).

The World Health Organization (WHO, 2005) defines mental health as a state of well-being in which individuals are aware of their abilities to cope with life stressors, work productively, and give back to their community. Analysis of psychopathology is more than simply understanding the symptoms and behaviors of individuals experiencing mental illness but also encompasses the absence of mental illness (Velten et al., 2022). For example, to determine the mental health status of individuals, positive mental health is considered the absence of mental disorders like depression and psychosis (Suldo & Shaffer, 2008).

Positive Mental Health

Positive mental health is defined as psychological, emotional, and social well-being (Suldo & Shaffer, 2008). Mental well-being is used interchangeably with positive mental health and is defined as the positive side of mental health (Velten et al., 2022; Warwick Medical School, 2020). Individuals experiencing mental well-being can function in their daily tasks, have confidence, and develop a healthy self-esteem (Warwick Medical School, 2020). The ability to have enjoyable and lasting relationships is a meaningful aspect of positive mental health (WHO,

2022c). However, external situations and how individuals respond to difficult circumstances impacts mental well-being. Individuals with a healthy mental well-being will react well and quickly recover from challenges (Warwick Medical School, 2020). Mental well-being shifts with time because an individual's next barrier or the number of challenging circumstances they will encounter is uncertain. Furthermore, mental health strongly influences physical health and interpersonal relationships (Warwick Medical School, 2020).

Warwick-Edinburgh Mental Well-Being Scale

The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) is a relatively new scale that was developed in 2007 and designed to focus on the positive aspect of mental health (Warwick Medical School, 2020). The WEMWBS differs from other scales because it excludes mental illness and negatively worded items (Tennant et al., 2007). The scale encompasses well-being, affective-emotional characteristics, cognitive-evaluative dimensions, and psychological functioning (Tennant et al., 2007).

In addition, the WEMWBS focuses on measuring two distinct perspectives: hedonic and eudaimonic. The hedonic perspective focuses on an individual's subjective experience of happiness and life satisfaction (Ryan & Deci, 2001). The eudaimonic perspective focuses on the individual's psychological functioning, feelings of having a meaningful life, and self-realization (Ryan & Deci, 2001). The scale focuses on mental wellness beyond the absence of mental illnesses because individuals diagnosed with a mental illness can simultaneously experience well-being (Shah, 2019). The holistic approach to measuring mental wellness links health to the physical, social, and spiritual aspects of well-being (Shah, 2019).

Adolescent Mental Health

The prevention of mental health disorders and promotion of mental health awareness is vital for public health advancements. By 2020, the leading cause of disability in developed countries will be youth mental health disorders (WHO, 2009). The leading cause of illness and disability among adolescents is depression, anxiety, and behavioral disorders (WHO, 2021). Globally, about one in seven or 14% of adolescents aged 10 to 19 years old experience mental health conditions; however, these conditions remain undiagnosed and untreated in adolescents (WHO, 2021). Effective interventions of mental health in the earlier stages of an individual's health can quickly improve the mental health and functioning of the youth while preventing negative impacts (Hetrick et al., 2008).

Youth tend to not take the initiative to seek assistance with their mental health concerns due to being introverted, perceived few benefits to seeking help, and perceived various barriers towards seeking help (O'Connor et al., 2014). Therefore, youth-friendly interventions where adolescents perceive the benefits of help-seeking behavior are paramount (O'Connor et al., 2014; Pascoe et al., 2020). For example, non-confronting options of mental health services, like anonymous phone counseling services, can help adolescents feel comfortable to seek help in the earlier stages (O'Connor et al., 2014). Physical activity and exercise are non-stigmatizing interventions that are positively viewed by the youth for treating mental health issues (Jorm & Wright, 2007). However, the reduced engagement in regular exercise and physical activity is increasing during adolescence, which aligns with the average age of onset of mental health issues (Kessler et al., 2007).

An inverse relationship exists between depressive symptoms and positive mental health in adolescents (Barry et al., 2013). A vital link was discovered between depressive

symptomology and psychological well-being (Joseph & De Guzman, 2021). Psychological well-being is a protective factor against mental health diseases (Lamers et al., 2013). With increased age, the symptoms of depression also increase and affect an individual's health (Schönfeld et al., 2017).

Depression is an increasing public health issue in communities and among adolescents. A 2017 report by the World Health Organization stated that the largest cause of global disability is depression, which affects 322 million people worldwide (Trent et al., 2019). The most prevalent mental illness in all cultures and age groups around the world is depression (Geraei et al., 2018). Not only has there been an increase in depressive episodes among adolescents, but adolescents are one of the most vulnerable age groups for experiencing depressive episodes (Mojtabai et al., 2016).

Physical Activity and Mental Health

The beneficial effects of physical activity are numerous and include improved physical health, well-being, and mental health (Biddle et al., 2019; Piercy et al., 2018; Windle et al., 2010). The WHO (2020) defines physical activity as the expenditure of energy by skeletal muscles to produce body movements. Both moderate and vigorous physical activity help improve the health of individuals and can be performed either during leisure time or for active transportation to perform daily activities, such as going to school or the grocery store.

The literature suggested the need for additional research to understand how different activity types and intensities affect various elements of health and well-being (Cerin et al., 2009). Recent research has focused on examining specific types and intensities of physical activity to support health and well-being (Kekäläinen et al., 2019). For example, Johansson et al. (2011) found that participation in brisk walking increased positive affect and decreased negative affect,

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while strength training decreased anxiety. Another study found that yoga increased the perception of energy, happiness, social relationships, and sleep (Ross et al., 2013).

In a recent study by Klussman et al. (2021) regarding well-being, positive affect was related to vigorous activity, while walking was related to searching for meaning. Moreover, the connection between minutes and days spent walking with the amount spent engaging in moderate activity was related to searching for a purpose (Klussman et al., 2021). Klussman et al. (2021) also demonstrated that physical activity can help improve mental health, quality of life, and well-being. However, additional research on the relationship is vital for further understanding the connections between these factors.

Self-Connection

The new concept of self-connection in the positive psychology literature may help expand the relationship between physical activity and health and well-being (Klussman et al., 2021). In Klussman, Curtin et al. (2020), self-connection is an awareness of oneself, an acceptance of oneself based on this awareness, and an alignment of one's behavior with their well-being because of the awareness. Klussman, Nichols et al. (2020) states that self-connection pertains to overall health, anxiety, positive and negative affect, life and job satisfaction, flourishing, and meaning in life. Recent research proposed a strong and consistent association between self-connection and other mental health and well-being outcomes (Klussman, Nichols et al., 2020). In addition, research connected both hedonic and eudaimonic well-being to self-connection (Klussman, Nichols et al., 2020). Research suggested that exercise may only be vital at low levels of self-connection (Klussman, Nichols et al., 2020). An individual experiencing low levels of self-connection may have improved health and well-being if they participate in physical activity (Klussman et al., 2021). Moreover, individuals with a high level of self-connection will

have established awareness, acceptance, and alignment of actions with themselves (Klussman et al., 2021). The intent of self-connection is to achieve to good health and well-being regardless of the amount or type of physical activity engaged (Klussman et al., 2021). Further understanding the relationship between self-connection and physical activity can assist in achieving overall health in individuals and communities.

Physical Inactivity and Guidelines

The rising levels of physical inactivity harm health, community well-being, and quality of life. According to the WHO (2022a, 2022b), one in four adults and 81% of adolescents do not get enough physical activity. The recommendation for children and adolescents ages five to 17 is to engage in an average of 60 minutes per day of moderate-to-vigorous physical activity (WHO, 2020). The recommended guidelines for adults ages 18 to 64 years are to perform 150 to 300 minutes of moderate-intensity aerobic physical exercise or at least 75 to 150 minutes of vigorous-intensity aerobic physical activity per week (WHO, 2020). With an increase in technological advancements and cell phone usage, sedentary behaviors have increased, and inactivity levels can be as high as 70% (WHO, 2022a).

Health Inequalities in Genders and Individuals with Disabilities

An increasing health inequality exists between males and females for the amount of physical activity performed, but a greater inequality exists between individuals with intellectual disabilities (Edwards et al., 2018). Individuals with intellectual disabilities have a reduced longevity and experience different chronic conditions, such as cardiovascular disease and diabetes which can be preventable (Heslop & Glover, 2015). Healthcare professionals are not addressing unmet physical health needs of patients with disabilities, and the lack of knowledge is

a barrier to care that is leading to a quarter of deaths that could have been prevented (Heslop et al., 2013; Oullette-Kuntz, 2005).

When comparing genders, women and girls engage less with physical activity in comparison to men and boys (WHO, 2022b). A reduced involvement in physical activity is not enabling individuals with or without physical and mental disabilities to obtain the benefits related to physical activity, such as physical, mental, and social health (WHO, 2022b). Instead, physical inactivity is causing a strain on society, so physical health monitoring should be improved to target the health inequality between genders and individuals with disabilities (Mencap, 2004). In 2016, estimates displayed that physical inactivity cost the United States health system $54 billion and resulted in a $14 billion economic loss (WHO, 2022b).

Statement of the Problem

Current literature focuses on either negative mental health conditions or the negative and positive aspects of mental well-being. Additional research on specific types of physical activity to improve the mental well-being of individuals is also needed. A newer approach to examining mental well-being explores only positive mental well-being, which can be measured with the WEMWBS. Prior studies have used large age categories when measuring and evaluating mental well-being in communities, so clarification is needed to differentiate between participants over the age of 55 to determine if higher levels of positive mental health are limited to individuals under 55. Therefore, this study included a sample of adolescents and adults. Exploring a community's mental well-being across broad age categories allowed for comparison and analyses for statistical differences across age distributions.

Purpose of the Study

The purpose of this descriptive study was to explore the mental well-being among males and females ages 13 and older in a community in Southern California. This study endeavored to collect and analyze data regarding mental health using a positive lens to examine mental well-being rather than taking a negative or diagnostic approach. The study investigated differences in mental well-being across gender and age groups as well as the relationship between mental well-being and moderate physical activity.

Research Questions

The study focused on the following three research questions:

1. Is there a statistical difference in self-reported mental well-being, as measured by the Warwick-Edinburgh Mental Well-Being Scale, across different age categories?

2. Is there a statistical difference in self-reported mental well-being, as measured by the Warwick-Edinburgh Mental Well-Being Scale, across gender categories?

3. Is there a relationship between each of the individual 14 Warwick-Edinburgh Mental Well-Being Scale items and self-reported moderate physical activity (number of days in the last seven days)?

Hypotheses

Hypothesis #1: It was hypothesized that there are statistical differences in self-reported mental well-being, as measured by the Warwick-Edinburgh Mental Well-Being Scale, across different age categories.

Hypothesis #2: It was hypothesized that there are statistical differences in self-reported mental well-being, as measured by the Warwick-Edinburgh Mental Well-Being Scale, across gender categories.

Hypothesis #3: It was hypothesized that there is a relationship between each of the individual 14 Warwick-Edinburgh Mental Well-Being Scale items and self-reported moderate physical activity (number of days in the last seven days).

Methods

Study Design and Participants

A convenience sample of participants was recruited from community-based events to participate in a cross-sectional and descriptive study between April 2022 and May 2022. The community-based events were coordinated and implemented by the Department of Community Services which is a branch of a local government agency located in the County of Riverside. The study explored the relationship between the built environment, accessibility to parks, trails, recreation, and public health programming. In addition, the study investigated physical activity, active transportation, and mental health.

Eligibility to participate in the study included being 13 or older and able to provide voluntary written or online consent, depending if the survey completed was via paper or online. Consent indicated that participants were willing to complete the survey and share their information with the local government agency. Data collection occurred at a 2022 Health Fair and 5K Color Fun Run on Saturday, April 23, and at the 2022 Youth Mental Health Conference on Wednesday, May 18. The Youth Mental Health Conference consisted of two school districts. A self-administered survey was available using a QR code or paper survey. Participants at the health fair could complete the survey using the QR code or paper survey; however, the QR code was the only option for participants at the conference.

The survey was created to enable the local government agency to understand current resident demographics and use of community public resources, including park and bike lanes between the two zip codes in the community. Also, the survey provided better understanding for why non-residents were using the programming and resources. By highlighting the similarities and differences among residents, the local government agency hoped to innovate mental health

and physical activity programming and adapt the built environment so that residents have improved accessibility to parks, trails, and programming in the community. The sample size was calculated a priori to ensure adequate statistical power in the study.

Using G*Power Software, version 3.1.9.6, with a medium effect size of 0.30 (Cohen's d), an alpha level of 0.05, and a power of 0.80 showed a minimum sample size of 140 was necessary for a one-way ANOVA. The calculation for a chi-square test of independence was a minimum sample size of 143. The minimum sample calculated for a bivariate correlation was 67. The minimum sample size calculated for a two-tailed independent samples t-test was 128. A total sample of 167 was collected for this study, exceeding the required minimum sample size for each statistical test. Participant consent was obtained using an online or written consent form that explained the nature of the study, benefits, time commitment, voluntary participation, and sharing of information.

Procedures

Participants completed an anonymous self-administered online survey using Qualtrics or a paper survey depending on participant preference. Both options were made available in English and Spanish. Participants did not know that surveys would be administered at a designated booth during the community-based events. At each event, participants had the opportunity to enter raffles which included prizes sponsored by the local government agency such as bikes with helmets, electronics, health-related prizes, tumblers, gift cards, and Disneyland tickets. During the event, announcements were made by select local government agency officials and at the City to participants about the opportunity to receive an additional raffle ticket for completing the self-administered survey. Participants who arrived at the booth were informed that the study would be an opportunity to hear their voices and better assist residents with future programming, park

adaptations, and developments within the City. In addition, participants were notified that their answers were anonymous and would be reviewed by select officials from the Community Services Department and shared for the purpose of this research. Proof of survey completion was required to receive an additional raffle ticket.

Participants who preferred to complete the survey online using their mobile devices scanned the QR code with their phones to complete the online survey. The screen directed participants to information about the study, time commitment, and consent to share their information. If participants agreed to engage in the study, they were prompted to select their language of preference, English or Spanish, before proceeding with the questionnaires. The survey was available to participants ages 13 and over attending the event. Upon completing the survey, participants were directed to a screen which thanked them for their time spent taking the survey. This screen was showed to officials for the additional raffle ticket. To prevent duplicates, the tops of participants' left hand was marked with an "X" in permanent marker.

If participants preferred a paper survey, they were asked if they wanted to take the survey either in English or Spanish. The surveys were double-sided, and participants were given the survey on a clipboard with a pen. The English surveys were printed on blue pastel paper, and the Spanish surveys were printed on pink pastel paper. When participants returned their completed surveys, they were thanked for their time, and their left hand was marked with an "X" before they were given a raffle ticket. The marked hand was to prevent participants from completing the survey twice.

Participants taking either the online or paper survey were directed only to the questions that pertained to them based on their answer choices. The online survey had restrictions for select questions so that participants would not navigate through the survey without answering the

questions. The survey took about 10 to 15 minutes to complete. The paper surveys were imported into Qualtrics and merged into one Excel data file. The Statistical Package for the Social Sciences (SPSS), version 27, was used for analysis. The data were downloaded into SPSS format and combined.

Measures

The survey consisted of seven sections: (1) demographics; (2) parks and amenities; (3) trails, recreation, and bike lanes; (4) active transportation; (5) the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS); (6) accessibility to resources; and (7) the International Physical Activity Questionnaire (IPAQ). Demographics were collected by asking participants about their zip code, the number of people living in their home, age, annual income, languages spoken, race, multi-generational households, and disability (see Appendix A).

The WEMWBS was used to measure positive mental well-being. The WEMWBS is an ordinal, self-reported measure with 14 positively phrased Likert items. The scale is also available in a short seven item scale; however, the full 14 item scale was utilized for this study. The scores range from 14 to 70, and a higher score depicts a higher level of mental well-being. The WEMWBS is a short survey that has been validated to be used in a general sample at both the population and individual level (Bartram et al., 2011; Lloyd & Devine, 2012). The survey was initially used in the UK, Iceland, and Spain. Additional scale properties include great face validity, content validity, and internal consistency (Cronbach's alpha of 0.89) and test-retest reliability (0.83) (Bass et al., 2016).

The IPAQ is an international measure used to measure levels of physical activity and sedentary behavior. The questionnaire was first developed in Geneva and consists of extensive reliability and validity testing (International Physical Activity Questionnaire, 2002). A short and

long form of the questionnaire is available and consists of a set of four questionnaires. The study used the short form of the IPAQ where the individual self-reported their level of physical activity and sedentary behavior over seven days (Cleland et al., 2018). Moderate to vigorous levels of physical activity were also measured (Cleland et al., 2018).

Data Analysis

For research question one and two, differences in the WEMWBS were compared across ages and genders for the entire scale as well as for individual well-being questionnaire items. A one-way ANOVA was used in research question one to compare differences in the full WEMWBS responses across age categories. In addition, separate one-way ANOVA analyses were performed to evaluate for statistically significant differences in responses to individual mental well-being scale items across age categories. Second, a two-tailed independent samples t-test was used in the second research question to compare the full WEMWBS responses between genders. In addition, separate independent samples t-test analyses were performed to evaluate for statistically significant differences in responses to individual mental well-being scale items between males and females. In research question three, a Pearson correlation was used to evaluate the relationship between the number of days individuals performed moderate physical activity and their WEMWBS values. In addition, Spearman correlation analyses were performed to evaluate differences in responses to individual mental well-being scale items across number of days moderate physical activity was performed in the last seven days.

Independent Variables and Dependent Variables

The independent variables included age, gender, and the number of days moderate physical activity was performed. Individuals were categorized into group variables for ages: 15-17, 18-24, 25-34, 35-44, 45-54, and 55+. Gender was categorized into three groups; however,

only females and males were included in the comparison since there were only two "other" responses, which were excluded from the analysis. In addition, the number of days the individual performed moderate physical activity in the last seven days was reported as a number from 0 to 7. The dependent variables were the items on the WEMWBS, which were analyzed both as a complete scale and individually. The WEMWBS scores were categorized (0 to 70) with higher scores reflecting a higher mental well-being.

Results

Demographics

The study included a sample size of 167 participants; however, not all participants responded to all items, resulting in slightly differing sample sizes across research questions. Participants were required to answer questions that pertained to them on the online surveys before moving forward to additional questions; however, paper surveys did not have the ability to restrict moving forward, which enabled participants to skip questions without following the directions of questions. A total of 165 participants answered the question on gender identity. The 68.5% ($n = 113$) self-reported as female, 30.3% ($n = 50$) self-reported as male, and 1.2% ($n = 2$) self-reported as other. The participants' age was broken up into six differing age groups of which 21.2% were under 18 years of age ($n = 35$), 14.5% were 18 to 24 years of age ($n = 24$), 21.2% were 25 to 34 years of age ($n = 35$), 24.8% were 35 to 44 years of age ($n = 41$), 9.7% were 45 to 54 years of age ($n = 16$), and 8.5% were 55 and older ($n = 14$).

One hundred sixty-six participants answered the question on race. Twelve percent ($n = 20$) self-reported comprised as White, 1.2% ($n = 2$) as American Indian or Alaska Native, 72.9% ($n = 121$) as LatinX or Hispanic, 6.0% ($n = 10$) as Black or African American, 1.2% ($n = 2$) as Native Hawaiian or Other Pacific Islander, 2.4% ($n = 4$) as Asian, and 4.2% ($n = 7$) as Other. One hundred sixty participants answered the question regarding annual income, in which 36.3% ($n = 58$) of the participants self-reported their annual income as under $25,000, 29.4% ($n = 47$) self-reported an annual income of $25,000 to $49,999, 20.6% ($n = 33$) self-reported $50,000 to $74,999, 7.5% ($n = 12$) self-reported $75,000 to $99,999, and 6.3% ($n = 10$) self-reported $100,000 or more.

One hundred sixty-four participants answered the question on a multi-generational household and provided their information. Forty-seven percent ($n = 77$) lived in a multi-generation household, and 53.0% ($n = 87$) did not live in a multi-generation household. From the 166 participants who fully answered the question on zip codes and provided their information, 78% ($n = 129$) lived within the two area codes of the City. From the 129 participants who lived in the City and fully answered both of the disability questions, it was self-reported that 84.50% ($n = 109$) did not have difficulty being physically active because of a physical, mental, or emotional condition and that 86.05% ($n = 111$) did not have serious difficulty concentrating, remembering or making decisions. Details of participants' demographics are displayed in Table 1 (see Appendix B).

Major Findings

Mental Well-Being and Age

In research question one, a one-way ANOVA was computed to determine differences in the full the WEMWBS responses across age categories. Although there were observable differences, no significant difference was found ($F (5,159) = 2.091$, $p = 0.069$). The participants from the six different age categories did not differ significantly in their full WEMWBS responses. Participants aged under 18 had a mean score of 44.09 ($sd = 16.51$). Participants aged 18 to 24 had a mean score of 47.83 ($sd = 21.94$). Participants aged 25 to 34 had a mean score of 54.66 ($sd = 15.52$). Participants aged 35 to 44 had a mean score of 47.88 ($sd = 22.38$). Participants aged 45 to 54 had a mean score of 43.06 ($sd = 23.05$). Participants aged 55 and over had a mean score of 58.00 ($sd = 5.78$). The results of this analysis reveal that self-reported mental well-being in the full WEMWBS did not differ across age groups.

While research question one did not reveal a significant difference in the WEMWBS across age groups, upon exploring all individual elements of the WEMWBS model, five individual components from the 14 items of the WEMWBS had significant differences across age categories. From the 14 items of the WEMWBS, the five significant findings were from the items regarding coping, clear-thinking, self-esteem, confidence, and the cheerful item.

A one-way ANOVA was computed to compare the coping item from the mental well-being scale across age categories. The ANOVA measured mean levels of agreement with the statement "I've been dealing with problems well" across age categories. A significant difference was found among participants who self-reported they had been dealing with problems well (F (5, 141) = 2.48, p = .035). A Bonferroni post hoc test was used to determine the differences between age categories. This analysis revealed that participants aged 18 and under scored lower (M = 3.16, sd = 0.95) than participants aged 55 and over (M = 4.21, sd = 0.43). Although no significance was found in the other age group categories, the results of this analysis revealed that older individuals coped better when dealing with problems in comparison to younger individuals.

A one-way ANOVA was computed to compare the clear-thinking item from the mental well-being scale across age categories. The ANOVA measured mean levels of agreement with the statement "I've been thinking clearly" across age categories. A significant difference was found among participants who self-reported they had been thinking clearly (F (5, 142) = 2.48, p = .007). A Bonferroni post hoc test was used to determine the differences between age categories. This analysis revealed that participants aged 18 and under scored lower (M = 3.19, sd = 1.18) than participants aged 55 and over (M = 4.23, sd = 0.44). Although no significance was found in the other age group categories, the results of this analysis revealed that older individuals thought clearer through situations in comparison to younger individuals.

A one-way ANOVA was computed to compare the self-esteem item from the mental well-being scale across age categories. The ANOVA measured mean levels of agreement with the statement "I've been feeling good about myself" across age categories. A significant difference was found among participants who self-reported that they had been feeling good about themselves (F (5, 142) = 4.75, p < .001). A Bonferroni post hoc test was used to determine the differences between age categories. This analysis revealed that participants aged 18 and under scored lower (M = 3.19, sd = 1.20) than participants aged 25 to 34 (M = 4.36, sd = 0.82). Although no significance was found in the other age group categories, including aged 55 and over, the results of this analysis revealed that the younger groups did not feel good about themselves.

A one-way ANOVA was computed to compare the confidence item from the mental well-being scale items across age categories. The ANOVA measured mean levels of agreement with the statement "I've been feeling confident" across age categories. A significant difference was found among participants who self-reported they had been feeling confident (F (5, 143) = 2.29, p = .049). A Bonferroni post hoc test was used to determine the differences between age categories. This analysis revealed that participants aged 18 and under scored lower (M = 3.38, sd = 1.04) than participants aged 55 and over (M = 4.21, sd = 0.58). Although no significance was found in the other age group categories, the results of this analysis revealed that older age ranges felt more confident about themselves.

A one-way ANOVA was computed to compare the cheerful item from the mental well-being scale items across age categories. The ANOVA measured mean levels of agreement with the statement "I've been feeling cheerful" across age categories. A significant difference was found among participants who self-reported they had been feeling cheerful (F (5, 145) = 3.120, p

= .01). A Bonferroni post hoc test was used to determine the differences between age categories. This analysis revealed that participants aged 18 and under scored lower ($M = 3.31$, $sd = 1.09$) than participants aged 55 and over ($M = 4.29$, $sd = 0.47$). Although no significance was found in the other age group categories, the results of this analysis revealed that younger groups did not feel cheerful while older groups do feel cheerful.

Mental Well-Being and Gender

An independent samples t-test was calculated to evaluate research question two and compare the full WEMWBS responses between genders. No significant difference was found, (t (162) = -.790, $p = .809$, $d = -.134$). The mean of the males ($M = 47.20$, $sd = 19.76$) was not significantly different from the mean of females ($M = 49.80$, $sd = 19.22$). Male self-reported mental well-being measures were similar to female self-reported mental well-being measures.

Research question two was not significant, but upon exploring all elements of the model, two sections from the fourteen items of the WEMWBS were significant. From the 14 items of the WEMWBS, the two significant findings were from the items regarding interest in other people and the confidence item.

An independent samples t-test was calculated to compare the "interested in other people" item from the mental well-being scale items between males and females. The independent samples t-test measured mean levels of agreement with the statement "I've been feeling interested in other people" between genders. A significant difference was found between the means of the two groups, (t (143) = -1.66, $p = .009$, $d = -.30$). The mean of the males was significantly lower ($M = 3.64$, $sd = 1.28$) than the mean of the females ($M = 3.97$, $sd = 1.03$). Over the last two weeks, females were feeling more interested in other people than males.

An independent-samples *t*-test was calculated to compare the confidence item from the mental well-being scale items across age categories. The independent samples *t*-test measured mean levels of agreement with the statement "I've been feeling confident" between genders. A significant difference was found between the means of the two groups, (t (146) = -.82, p = .007, d = -.15). The mean of the males was significantly lower (M = 3.77, sd = 1.24) than the mean of the females (M = 3.93, sd = 1.01). Over the last two weeks, females were feeling more confident than males.

Mental Well-Being and Moderate Physical Activity

In research question three, a Pearson correlation coefficient was calculated to examine the relationship between the number of days individuals performed moderate physical activity and their WEMWBS values. No significant association was found (r (107) = .035, p = .717) between the number of days individuals performed moderate physical activity during their free time and their WEMWBS score.

Research question three was not significant, but upon exploring all elements of the model, one item out of the 14 WEMWBS items had a significant association with days of moderate physical activity. From the 14 items of the WEMWBS, the one significant finding was from the item regarding feeling useful.

A Spearman *rho* correlation coefficient was calculated for the relationship between participants' responses to feeling useful in the individual mental well-being scale items and the number of days performed moderate physical activity in the last seven days. A weak, positive relationship was found, (r (101) = .22, p = .027), indicating a significant relationship between the two variables. Participants who engaged in moderate physical activities in the last seven days, during their free time, tended to feel more useful in the last two weeks.

Discussion

Summary of Major Findings

The purpose of this study was to gain a better understanding of statistical differences in mental well-being across age, gender, and self-reported moderate physical activity. The scores on the WEMWBS range from 14 to 70 where a higher score depicts a higher level of mental well-being. The first research question stated, "Was there a statistical difference in self-reported mental well-being, as measured by the Warwick-Edinburgh Mental Well-Being Scale, across different age categories." The results of the present study did not support the hypothesis that there are statistical differences in self-reported mental well-being, as measured by the WEMWBS, across different age categories. This pattern of results is consistent with the previous literature by Kim et al. (2022) on aging and happiness. In this previous study, congruency was found with the so-called age-happiness puzzle which states that happiness increases rather than decreases as individuals reach late adulthood (Kim et al., 2022).

The present research study explored individual elements of the model, and the findings highlight five individual components of the WEMWBS had significant differences across age categories. From the 14 items of the WEMWBS, the five significant findings were from the items regarding coping, clear-thinking, self-esteem, confidence, and the cheerful item. These results are consistent with previous studies finding that older individuals were more satisfied with their lives (Blanchflower & Oswald, 2008; Diener et al., 1999) and felt a greater positive affect and less negative affect than adolescents (Kessler & Staudinger, 2009). It is interesting that results of the present study revealed that older individuals self-reported higher scores for better coping abilities when dealing with problems, thinking clearer through situations, feeling confident about themselves, and feeling cheerful in comparison to younger individuals. This

finding may be explained by the idea presented by Carstensen et al. (1999) which postulates the socioemotional selectivity theory in which older individuals become slightly aware of their limited time left, so their motivation changes from extrinsic goals like money and fame to intrinsic goals like purpose in life and close relationships.

The results of the present research study also highlight that adolescents self-reported very low scores in self-esteem and in feeling cheerful when compared to older individuals. Existing literature indicated there is a link between positive well-being and depression (Winefield et al., 2012). In addition, if depressive symptoms are extended, then they impede an individual's ability to cope with problems and inhibits daily activities (Winefield et al., 2012).

The second research question stated, "Was there a statistical difference in self-reported mental well-being, as measured by the Warwick-Edinburgh Mental Well-Being Scale, across gender categories?" The results of the present study did not support the hypothesis that there were statistical differences in self-reported mental well-being, as measured by the WEMWBS, across gender categories. The present results are consistent with Marmara et al.'s (2022) study, which found no differences across males and females between their overall full WEMWBS scores. Upon exploring elements of the WEMWBS model for the present research study, this present study found two sections that were significant across males and females. From the 14 items of the WEMWBS, the two significant findings were from the items regarding interest in other people and the confidence item. The results of the present study strongly implied that women self-reported higher values of feeling more interested in other people and feeling more confident than males. These results are in alignment with another study illustrating a lack of variance in the full WEMWBS between genders as well as some variation across specific scale items including confidence as seen in this study (Marmara et al., 2022). This finding may be

explained by the idea that men may experience lower social well-being than women because of social pressures related to norms of being masculine and self-reliance, which results in independence, increased psychological distress, reduction in social well-being, and avoidance of mental health support (Iwamoto et al., 2018; Maydeu-Olivares et al., 2018).

The third research question stated, "Was there a relationship between each of the individual 14 Warwick-Edinburgh Mental Well-Being Scale items and self-reported moderate physical activity (number of days in the last seven days)? The results of the present study do not support the hypothesis that there is a relationship between each of the individual 14 WEMWBS items and self-reported moderate physical activity performed in the last seven days. From the 14 items of the WEMWBS, the one significant finding was from the item regarding feeling useful. These results are consistent with prior research suggesting that the effects between mental health and physical activity are not as strong as priorly thought (Biddle & Asare, 2011; Netz et al., 2005). Existing literature showed that exercise affects mental well-being, but studies demonstrated that different connections exists between the type of physical activity and the mental health outcome (Chekroud et al., 2018; Klussman et al., 2021). Additional research exploring the relationships between different types of physical activity, health, and well-being should be investigated (Klussman et al., 2021).

Upon exploring elements of the WEMWBS model for the present research study, this study's findings highlight one item on the WEMWBS items had a significant association with days of moderate physical activity. The present research study demonstrated a statistically significant correlation between individuals having been feeling useful and performing moderate physical activity during their free time. These results are consistent with other studies demonstrating that physical activity enhances self-esteem, reduces stress, and brings a higher

quality of life (Ahmed et al., 2014; Gavin, 2005; Penedo & Dahn, 2002). In addition, the study

by Klussman et al. (2021) demonstrated that the minutes and days spent walking and engaging in

moderate physical activity were related to individuals searching for meaning.

Public Health Implications

These major findings have some potential intervention implications. For example, the

present study's findings are essential for local entities, public health professionals, and future

studies that focus on the overall positive mental well-being of individuals or specific target

populations. These findings suggest adolescents are not coping as well as older individuals and

therefore are a vulnerable group at risk for depression now and in later age. The findings are

consistent with recent research that has explored interventions geared toward adolescents and the

high prevalence of mental disorders and psychological distress seen in this population (McGorry

et al., 2006; Scott et al., 2012). In comparison, to the older population, upcoming generations

may not be as happy, not have the ability to cope with mental health issues, and may attempt

suicide as an adult (Meltzer et al., 2011). Twenty-eight percent of youth ages 12 to 18 are

reported to be bullied in the United States, and bullied victims have an increased risk of

depression, sadness, suicidal ideation and attempt, and suicide as adults (Brunstein Klomek et al.,

2007; Meltzer et al., 2011; Waasdorp et al., 2017). With suicide being the fourth leading cause of

death among 15 to 19 year old individuals, coping mechanisms and public health initiatives are

vital to prevent the negative effects of depression and suicide (WHO, 2021).

The analysis also suggests that females may feel more interested in other people and feel

more confident in comparison to males, but there is no difference between genders when

exploring the full items on the WEMWBS. These findings are consistent with both results

demonstrating differences at the individual scale, but no differences when analyzing the full

WEMWBS between genders (Castellví et al., 2014; Mavali et al., 2020). The findings also align with demonstrating significant differences in social well-being between men and women (Castellví et al., 2014; Mavali et al., 2020). These and previous findings illustrate the need for additional research on differences between genders in order to create social and well-being programs aimed at supporting males' mental well-being more effectively. Increased use of the WEMWBS could help therapists and psychiatrists better tailor their services to both men and women by assisting with areas individuals demonstrate needing support (Marmara et al., 2022).

This study illustrated an association between individuals feeling useful and self-reported engagement in moderate physical activity. These findings are consistent with recent research prioritizing exercise as a primary form of mental health treatment and maintenance in schools because of the positive effects exercise has on mental health, reducing depression and anxiety, improved mood, and self-esteem (Brunstein Klomek et al., 2007; Sibold et al., 2019; Wegner et al., 2014). Carlson et al. (2015) stated that both cognitive and academic benefits result from increased physical activity programming in schools. Therefore, local organizations, schools, and entities should promote and adopt programming to help support overall mental well-being and physical health through increased physical activity and positive socialization opportunities.

Interventions and programming in cities, schools, and non-profits aimed at improving well-being have been shown to help address and improve self-care and reduce depression (Rombouts et al., 2022). Early screening of adolescents with the WEMWBS would help to identify low psychological well-being and ensure interventions are put in place assist individuals in managing their symptoms. Incorporating skills to manage depression and enhance positive well-being in adolescents via take-home assignments, courses specific to well-being, and toolkits would provide individuals with tailored educational programming for parents, coaches, teachers,

and students (Sibold et al., 2019). Providing information on the importance of skillsets and coping mechanisms at an early age is a way to target the current generation so that they become better able to cope daily stressors in later life and have a decreased risk for developing depression (Romano, 1992). Increased public health interventions aimed at improving well-being and self-care could assist with the prevention of depression and decrease incidents that impact poor mental health, such as bullying and suicide (Sibold et al., 2019). General health motivation is vital in predicting help-seeking behaviors and should be developed in adolescents from a young age (O'Connor et al., 2014).

Restructuring policies on the types of exercise programs required in schools could be beneficial in helping to improve overall positive-mental well-being. In addition, accessibility of spaces in communities to engage in moderate physical activity could help reduce the risk of depressive symptoms and severe depression in communities (Carlson et al., 2015). Schools and communities generally have not implemented preventive interventions (Wandersman & Florin, 2003). Promotion and prevention efforts need a multi-level approach with different delivery platforms like health or social care settings, schools, and the community and various strategies to reach the most vulnerable like adolescents (WHO, 2021). Literature stated that exercise interventions aimed at mental health benefits children and adolescents and is a financially accessible, safe tool (Carlson et al., 2015; Englander, 2012).

Youth are more likely to engage in more sedentary activities and are less physically active as they mature (Pate et al., 2010). With Healthy People 2020, the promotion of physical activity by walking and active transportation is a national priority in the U.S. (Department of Health and Human Services [DHHS], 2022). Information on differences in regions exist, but

differences at the state and local level could help in creating targeted interventions, policies, and environmental changes (Saunders et al., 2018).

In addition to social determinants of health, the built environment is essential in influencing individual's health throughout their stages in life (Dahlgren & Whitehead, 1991). Recent research demonstrated that the way cities are built and planned can influence the behavior, physical, and mental health of residents (Davern et al., 2017). Accessibility to walking trails, bike lanes, and a built environment promoting an active lifestyle may be essential for positive changes in communities (Gunn, 2020). A new direction of focusing exercise towards a specific health issue, like mental well-being while, promoting a positive lifestyle change can be implemented within the built environment for residents. Mental health promotion campaigns focusing on the benefits of engaging in moderate physical activity can be used to improve positive mental well-being in communities (O'Connor et al., 2014). With the identification of the types of exercise that directly influence positive mental well-being, communities and local organizations could target vulnerable populations. By highlighting similarities and differences among residents, local organizations can innovate mental health and physical activity programming and adapt the built environment so that residents have improved accessibility to parks, trails, and programming. In addition, by focusing on a community's needs and barriers, city leadership can prioritize changes in the built environment via grants and programming.

Finally, this study's results have several theoretical and practical implications. The health belief model (HBM) describes why individuals engage in proactive healthy behavior changes, such as seeking mental health assistance and engaging in exercise programs (O'Connor et al., 2014). The six constructs of the HBM are perceived susceptibility, perceived benefits, perceived severity, perceived barrier, cues to action, and self-efficacy, which can be explored in help-

seeking behaviors of individuals (O'Connor et al., 2014). There is empirical support for how the six HBM constructs impact the field of physical health; however, additional quantitative studies need to focus on the validity of the model in the field of mental health (O'Connor et al., 2014; Wright et al., 2012) A meta-analysis study by Sheeran et al. (2016) demonstrated that self-efficacy was the central predictor of behaviors regarding an individual's health. Self-efficacy influences how threats are perceived by individuals (McBride & Ireland, 2016).

A study analyzing adolescents mental health help seeking behaviors demonstrated that adolescents were more likely to obtain help when they had low levels of social support, higher perceived benefits, and low perceived barriers (O'Connor et al., 2014). In addition, results indicated that perceived benefits are vital in comparison to the number of barriers because perceived benefits bring about the help-seeking behavior (O'Connor et al., 2014). As such, another aspect to consider in future studies and mental health interventions is how the focus of the positive lens of perceived benefits can be combined with positive mental well-being. Another finding in the study demonstrated that perceived severity and susceptibility were not directly related to the intention of seeking help such that individuals with the greater need would not seek the help (O'Connor et al., 2014). However, individuals who most need the help seek assistance if benefits are perceived or if a high level for general health motivation is present (O'Connor et al., 2014). In promoting services, the focus should be on the benefits of mental health (O'Connor et al., 2014). When targeting adolescents, the primary message in mental health promotion is currently not on the effectiveness of preventing problems and improvement of functioning with daily activities (O'Connor et al., 2014). More messaging on the positive aspects of mental well-being should be used for future programming to create help-seeking behaviors in adolescents and older individuals.

Study Limitations

The results of this study contain both strengths and limitations. A strength of this study was that it included reliable and valid measuring tools: the 14-item WEMWBS and the IPAQ (Bass et al., 2016; International Physical Activity Questionnaire, 2002). One limitation was that the sample included participants outside the age range for the IPAQ. The IPAQ estimates physical activity and sedentary behavior for participants aged 15 to 69 years, but has yet to be validated for participants aged 70 or above (Ara, 2014; Cleland et al., 2018). The WEMWBS can be used for participants aged 16 and above and for participants aged 13 and over in samples over 100 (Public Health Scotland, 2021). Although participants had to be ages 16 and over to participate, it is possible they did not disclose their actual age in order to participate in the study.

An adequate sample size and power was obtained, but the sample was unbalanced across several groups, such as males. It is possible that a type II error occurred, which is similar to a false negative. Another potential limitation in this study includes self-report bias, social desirability bias, and the recall bias. Participants may have purposely under- or over-reported the amount of moderate physical activity performed to show their activity level in a better light as well as forgotten and estimated if overlapped with another survey question asking about their activity level. Existing literature stated how adding additional detail on types of activities could improve individuals' ability to recall their activity over a seven-day period (Cleland et al., 2018). In addition, participants may have purposely under- or over-reported their agreeableness or not when selecting their scores of mental well-being to demonstrate a healthier version of themselves as well as forgotten and estimated.

The current study did not explore whether the differences observed across age groups were truly age or rather generational or whether younger individuals are expected to experience

an improvement in well-being scores as they age. However, in both cases the findings illustrate a need for enhanced mental health services targeted towards adolescents. Another limitation in this study was participation bias. The participants self-selected into the survey in public places and at health fairs/conferences. The type of individuals at these events may already have been inherently more active than the average person. The data collected was at an event where participants were physically active which could have skewed the data. Also, individuals could have been less healthier than the average person and thus attending these events in need of support for their mental well-being and seeking services to assist them.

From the sample size, a higher percentage of individuals self-identified as Hispanic from a community with a high speaking Spanish population, which may not be reflective across all ethnic groups. How race was collected could have been a limitation because participants were not given the option to select more than one race. Another limitation is that the use of paper surveys allowed participants to skip questions to complete the survey faster, resulting in missing data. In addition, paper surveys could not take into account if participants selected more than one answer when the question was asking for only one response. Finally, this was a cross-sectional descriptive study; therefore, additional studies are required to investigate causation among the variables.

Conclusion

Much work remains to be done before a full understanding of the extent of positive mental well-being is established. The 14-item WEMWBS should continue to be used in communities and at a population level. Incorporating the HBM into interventions could assist in healthy behavior changes, but further studies are necessary for determining if a positive lens focus is significant for achieving beneficial changes in individuals' well-being. Additionally,

exploring specific types of physical activities and exercises and how they assist with positive

mental well-being is essential for guiding programming. Future deployment of the WEMBMS in

research could improve identification of specific areas individuals want to develop to improve

their well-being, such as their confidence, coping abilities, and self-esteem.

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Appendix A: Survey Questionnaire

Community Interest and Opinion Survey: *Let your voice be heard today!*

The City ▮▮▮▮ Community Services Department would like your input to help determine park and recreation priorities for our community. <u>This survey will take 10 minutes to complete.</u> When you are finished, please return your survey. By completing this survey, you are agreeing to share your information with the City ▮▮▮▮

1. What is the ZIP Code where you currently live? _____

2. Counting yourself, how many people live in your household? _____

3. What is your current age? (Please specify in years) _____

4. What is your gender identity?
___ Male ___ Female Other: _____

5. What bracket most accurately reflects your annual income?
___ Under $25,000   ___ $50,000-$74,999   ___ $100,000 or more
___ $25,000-$49,999   ___ $75,000-$99,999

6. What Languages do you currently speak? (Select all that apply)
____ English   ____ Spanish   Other (Please Specify): _____

7. Please indicate which group below best describes your <u>racial identification</u>?

____ White	____ Black or African American
____ American Indian or Alaska Native	____ Native Hawaiian/Other Pacific Islander
____ Middle Eastern, North African	____ Asian
____ Latinx/Hispanic	____ Other (Please Specify):
	_____

8. Do you live in a multi-generation household? Please answer YES or NO
___Yes ___ No

9. Because of a physical, mental, or emotional condition, do you have difficulty being physically active?
___Yes ___ No

10. Because of a physical, mental or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions?
___Yes ___ No

11. Have you visited any of the City ▮▮▮▮ Parks, Trails, and/or Bike lanes during the past year?
    ___ Yes   ___ No (Skip to Question #13 if your answer is no)

    12a. If your answer is Yes, which City ▮▮▮▮ Parks, Trails, and/or Bike lanes do you visit?
    Answer 1: _____   Answer 2:_____

    Answer 3:_____   ___ Don't Know the Name

    12b. If your answer is Yes, why do you visit City ▮▮▮▮ Parks, Trails, and/or Bike lanes? _____

    12c. If your answer is Yes, which park amenities do you use the most in the City ▮ ▮▮ ? (Select all that apply)

____ Barbeque Grills	____ Sheltered Picnic Tables
____ Baseball/Softball Field	____ Skate Park
____ Basketball Court	____ Snack Bar
____ Fitness Equipment	____ Soccer Field
____ Football Field	____ Splash Pad
____ Group Shelter	____ Tennis Court
____ Parking Lot	____ Theatrical Stage
____ Picnic Tables	____ Volleyball Court
____ Playground	____ Walking Trail
____ Restrooms	____ Other (Please Specify):
	_____

13. What is a reason you do not visit City ▮▮▮▮ Parks, Trails, and/or Bike lanes?
_____

14. Is there a City ▮▮▮▮ Park, Trail, and/or Bike lane near your home that is a ten-minute walking distance?
    ____Yes   ____No (Skip to Question #15 if your answer is no)
    ____Don't Know/Not Sure (Skip to Question #15 if your answer is don't know/not sure)

    14a. If Yes, which City ▮▮▮▮ Park, Trail, and/or Bike lane is near your home?
    Answer 1: _____

    Answer 2: _____

    Answer 3: _____
    ____ Don't Know the Name

15. Approximately how often did you visit any City ▮▮▮▮ Parks in the past month?
    ___ 0 Visits   ___ 1 to 5 visits   ___ 6 to 10 visits   ___ 11 to 19 visits
    ___ 20 or more visits

16a. During the last 7 days, on how many days did you ride a bicycle for at least 10 minutes at a time to go from place to place?
_____ Days (Enter number of Days)

16b. During the last 7 days, on how many days did you walk for at least 10 minutes at a time to go from place to place?
_____ Days (Enter number of Days)

16c. During the last 7 days, on how many days did you travel in a motor vehicle like a train, bus, or car?
_____ Days (Enter number of Days)

17. Did you know the City ████ has Trails and/or Bike lanes?
_____ Yes _____ No (Skip to Question # 19 if your answer is no)

    18a. If Yes, how did you find out? (Select all that apply)
    _____ Visible near my neighborhood
    _____ City events or City bulletin
    _____ Shared by a friend, neighbor, or family
    _____ Other (Please Specify):

    _____

19. Please select the destinations you ride your bike in the City ████? (Select all that apply)
___ School ___ Work ___ Clinic ___ Park ___ Grocery Store
___ Visit Family or Friends
___ Other (Please Specify): _____
___ Do not bike in the City of Perris (Skip to Question #21 if your answer is no)

20. Approximately how often did you use any City ████ Trails and/or Bike lanes in the past month?
___ 0 Visits ___ 1 to 5 visits ___ 6 to 10 visits ___ 11 to 19 visits
___ 20 or more visits

21. Do you have access to a bike? ___ Yes ___ No

22. Do you utilize a bicycle helmet? ___ Yes ___ No

23. Do you know how to ride a bike? ___ Yes ___ No

24. Below are some statements about feelings and thoughts. Please select the number of each statement that best describes your experience of each **over the last 2 weeks.**

Statements	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I've been feeling optimistic about the future.	1	2	3	4	5
I've been feeling useful.	1	2	3	4	5
I've been feeling relaxed.	1	2	3	4	5
I've been feeling interested in other people.	1	2	3	4	5
I've had energy to spare.	1	2	3	4	5
I've been dealing with problems well.	1	2	3	4	5
I've been thinking clearly.	1	2	3	4	5
I've been feeling good about myself.	1	2	3	4	5
I've been feeling close to other people.	1	2	3	4	5
I've been feeling confident.	1	2	3	4	5
I've been able to make up my own mind about things.	1	2	3	4	5
I've been feeling loved.	1	2	3	4	5
I've been interested in new things.	1	2	3	4	5
I've been feeling cheerful.	1	2	3	4	5

25. Do you participate in City ▮▮▮▮ programming and events?
____ Yes   ____ No (Skip to Question # 26b if your answer is no)

      26a. If Yes, why do you participate in City programming and events?
      _____

      26b. If No, please specify why you do not participate in City programming and events?

_____

27. What programs would you like to see offered in your parks?
_____

28. Are there City ▮▮▮▮ programming and events near your home that are a ten-minute walking distance?
    ____ Yes   ____ No (Skip to Question # 29 if your answer is no)
    ____ Don't Know/Not Sure (Skip to Question #29 if your answer is don't know/not sure)

28a. If Yes, which City ▮▮▮▮▮ programming and/or events are offered near your home?

_____

29. During the <u>last 7 days</u>, on how many days did you do <u>vigorous</u> physical activities <u>in your free time</u>?
Vigorous physical activities refer to activities that make you breathe much harder than normal.
   Days (Enter number of Days): _____

    29a. What type of vigorous physical activities do you engage in your free time?
    ____ Heavy lifting   ____ Running   ____ Aerobics
    ____ Fast Bicycling   ____ Other (Please Specify): _____
    ____ No vigorous activity performed in free time

30. During the <u>last 7 days</u>, on how many days did you do _moderate_ physical activities <u>in your free time</u>?
Moderate *activities are activities that take moderate physical effort and make you breathe <u>somewhat</u> harder than normal.*
   Days (Enter number of Days): _____

    31a. What type of moderate physical activity do you engage in your free time?
    ____ Walking ____Gardening   ____Bicycling
    ____ Other (Please Specify): _____
    ____ No moderate activity performed in free time

We thank you for your time spent taking this survey.

Appendix B: Demographics

Table 1

Demographic Characteristics of Survey Participants (n=167)

	n	*%*
Gender		
Female	113	68.5
Male	50	30.3
Other	2	1.2
Ethnicity		
African American/Black	10	6
Hispanic/LatinX	121	72.9
White	20	12
Native Hawaiian/Other Pacific Islander	2	1.2
Asian	4	2.4
American Indian/Alaska Native	2	1.2
Other Race	7	4.2
Age Ranges		
Under 18	35	21.2
18 to 24	24	14.5
25 to 34	35	21.2
35 to 44	41	24.8
45 to 54	16	9.7
55 and over	14	8.5
Annual Income		
Under $25,000	58	36.3
$25,000 to $49,999	47	29.4
$50,000 to $74,999	33	20.6
$75,000 to $99,999	12	7.5
$100,000 or more	10	6.3
Multi-Generation Household		
Yes	77	47
No	87	53
Live in the City's Zip Code		
Yes	129	78
No	37	22.29
Physical/Mental/Emotional Condition Present		
Difficulty Being Physically Active	20	15.5
No Difficulty Being Physically Active	109	84.5
Difficulty Concentrating/Remembering/Making Decisions	18	13.95
No Difficulty Concentrating/Remembering/Making Decisions	111	86.05