Correlates of Life Satisfaction Among Middle-Aged and Older Black Adults

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Received: 24 February 2020 / Revised: 21 September 2020 / Accepted: 28 September 2020 / Published online: 6 October 2020
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Abstract

Background This study examines satisfaction across life domains (condition of the home, city of residence, daily life/leisure, family life, current financial situation, total household income, health, and life as a whole) among Black adults. The study also explores the association between satisfaction in each life domain and sociodemographic, personality, and mental/physical health measures.

Methods A community-dwelling sample of Black adults (n = 93, age range = 55–80) residing in the Tampa, FL area, completed a life satisfaction scale and measures of sociodemographic factors, personality, and mental/physical health between October 2014 and June 2016.

Results Better life satisfaction was observed in the oldest-old (80+) compared with the middle-aged (55–64; p < .05). Less education, less financial strain, lower depressive symptoms, and better self-rated physical health were associated with higher satisfaction although the pattern of results varied by domain.

Conclusions Our findings suggest that the evaluation of life satisfaction domains may be a useful approach for identifying specific individual needs, which may inform age-friendly community initiatives.

Keywords Life satisfaction · Life domains · Black adults · Well-being

Introduction

Well-being is an important indicator of successful aging and longevity [40, 46]. Life satisfaction is one such factor of well-being that has received great attention [41] and is higher in older Blacks compared with older Whites [10, 42]. These higher levels of life satisfaction are intriguing especially considering Blacks commonly experience social disadvantage [10, 43], adverse health outcomes [2, 61], higher risk for cognitive impairment [66], and higher risk for functional limitations or disability [22]. These observations prompt the question as to whether life satisfaction may be an important source of resiliency within older Blacks despite the exposure to these adversities.

Prior literature suggests that life satisfaction is associated with sociodemographic factors (e.g., age, income, and personality) [13, 23, 34, 39, 48, 51] and health [13, 23, 34, 35]. Specifically, poor life satisfaction has been associated with disability, increased psychological distress, pain, poor sleep, negative health behaviors (e.g., smoking and/or drinking) [53], and early mortality [26]. Black adults report high levels of life satisfaction [38, 56], which is associated with older age [31, 38, 56], being married [38, 56], higher income [56], being a resident in the South [56], fewer health problems [56], greater frequency of contact with family [38], subjective closeness with family [38, 56], lack of need to be assisted from extended family ([56]); and greater frequency of church attendance [56]. However, to the authors’ knowledge, research has yet to examine the combined effects of several of these important factors on different domains of life satisfaction, rather than the
commonly used broad measurement of life satisfaction as a whole among Black older adults.

As such, another gap in the literature is the operational definition for life satisfaction. Life satisfaction is often derived as a global index, which provides information on life satisfaction as a whole [52]. However, focus on an overall score may mask important specific sources that drive an individual’s well-being. Considering that the biopsychosocial model suggests that adults’ perceptions of health, well-being, and quality of life are influenced by unique and interacting physical, psychological, cognitive, and social processes [17, 28], the next systematic step is to understand satisfaction at the domain level. This approach may be particularly beneficial for understanding health and well-being within our minority groups, as individuals from different sociocultural groups may have different cultural experiences, values, and goals that shape the emphasis they place on specific life domains [32]. For example, older age in Black adults is related to high levels of life satisfaction as a whole [31, 38, 56]; however, further exploration of underlying subdomains of this global finding would further clarify whether older age is related to a specific source that drives an individual’s well-being (e.g., family life) or multiple sources that influence well-being (e.g., family life, leisure activity, and health). Thus, evaluating the domains of life satisfaction may provide rich information to specific individual needs to further guide community-level initiatives, health-related programs, and/or interventions that tap into relevant life domains to enhance the quality of life within older Blacks.

The present study explores satisfaction across eight domains of life (i.e., condition of the home, city of residence, daily life/leisure, family life, current financial situation, total household income, health, and life as a whole) among middle-aged and older Blacks. Additionally, the study examines the relationships between satisfaction across each life domain and (1) sociodemographic factors (e.g., age, sex, socioeconomic status, and personality); (2) mental health (e.g., psychological and cognitive indices); and (3) physical health (e.g., health conditions, perceived health, activities of daily living, and blood pressure).

**Methods**

**Participants**

This study included data from the Tampa Study which was initiated to assess cognitive function and health in Black adults residing in the Tampa, FL area, between October 2014 and June 2016. The Tampa Study recruited 112 community-dwelling self-identified Blacks aged 55+ from health fairs, senior recreation centers, churches, and participant referrals. Participants were considered eligible based upon the criteria including (1) score of 25 or higher on the Mini-Mental State Exam (MMSE; [16]); (2) no indication of significant depressive symptomology as indicated by a score below five on the Geriatric Depression Scale 15-item short version scale (GDS; [65]); and (3) no report of diagnosis of dementia or mild cognitive impairment. A more detailed description of the study has been previously published [20]. This study includes the data of 93 eligible adults from the Tampa parent study with complete data.

**Measures**

**Satisfaction with Domains of Life** Life satisfaction was measured using the Satisfaction with Domains of Life (SDL) scale adapted from prior research [32]. The SDL consists of eight items that assess eight domains of life satisfaction on a 5-point scale (1 = completely satisfied, 5 = not at all satisfied). The questions asked: “In your life and your situation right now, how satisfied are you with the/your…” (1) home condition, (2) city or town of residence, (3) daily life/leisure, (4) family life, (5) financial situation, (6) total household income, (7) health, and (8) life as a whole. Item response scores were reverse coded, so higher scores across the domains reflected higher satisfaction.

**Demographics** Participants’ age and sex were documented. Education quantity was measured by asking participants to report how many years of education they obtained. Objective education quality was measured by using the reading subtest of the Wide Range Achievement Test-3rd Edition (WRAT-3) [63], which is a sensitive measure of education quality [33]. The WRAT-3 has a potential maximum score of 57, with higher scores reflecting better education quality. Income was measured by asking participants to report their total gross family income per month. Financial strain was assessed by asking participants how well their monthly income covered their needs [55]. Participants’ responses to this question could range from (3) “Not very well” to (0) “Very well.” The Everyday Discrimination Scale is a 9-item questionnaire that assesses the frequency of perceived discrimination or unfair treatment [64] in day-to-day experiences (e.g., frequency of being treated with less courtesy). For each item, responses range from (1) “Almost every day” to (6) “Never.” Scores could range from 9 to 54 with lower scores indicating higher perceived discrimination.

**Personality Traits** The 44-item Big Five Inventory (BFI) [24] was used to measure the five personality factors: extraversion, agreeableness, conscientiousness, neuroticism, and openness. Participants were asked the question: “I see myself as someone who…(item description)” and asked to rate on a 5-point scale how well they (1) disagreed strongly to (5) agreed.
Strongly with the description. Higher scores indicate higher levels of each respective factor.

**Mental Health** Depressive symptoms were measured by the 15-item short form version of the Geriatric Depression Scale [47]. The 14-item Perceived Stress Scale [12] was used to measure the stressful feelings and thoughts within the past month. Subjective mental health was measured by participants’ perception of their own mental health compared with peers. Scores could range from 1 to 6 with higher scores indicating positive perceptions of mental health. Subjective memory was measured by a subjective memory complaints questionnaire [1]. Higher scores reflect greater depressive symptoms, stress, and more memory complaints, respectively.

The performance-based cognitive tests were administered via paper-and-pencil using standard neuropsychological assessment methods, and included eleven tests: (1) Mini-Mental State Examination (MMSE) [16] as a global status; (2) Montreal Cognitive Assessment (MoCA) [36] as a global status; (3) the Benton Visual Retention Test (BVRT) [50] for visual memory; (4) WAIS-R Digit Span test [60] for attention; (5) the Alpha Span test [14] for working memory and cognitive flexibility; (6) Progressive Matrices [6] for reasoning; (7) Trails Making Test, Parts A and B [45] and (8) Digit-Symbol Substitution test [60] for speed and attention; (9) Card Rotation task [18] for spatial orientation; (10) Boston Naming Task [25] for language and naming; and (11) Verbal Fluency [25] for executive function. For tasks that measure reaction time (i.e., Trails Making Test, Parts A and B), the scores were reverse coded, so higher values reflected better performance. For all tasks, standardized scores were estimated and a sum score was calculated for tasks that represented each of seven cognitive domains: (1) global status (MMSE and MoCA), (2) speed (Trails and Digit Symbol), (3) memory (BVRT, Digit Span, Alpha Span, and Digit Symbol), (4) attention (BVRT, Digit Span, Trails, and Card Rotation), (5) executive function (Digit Span, Alpha Span, Raven’s Progressive Matrices, Trails, and Verbal Fluency), (6) visual orientation (BVRT and Card Rotation), and (7) language (Boston Naming and Verbal Fluency). This approach for estimating each cognitive domain score is consistent with the literature [15, 19].

**Physical Health** Health conditions were estimated by taking the sum of conditions (i.e., diabetes, heart disease, hypertension, asthma, emphysema/COPD, cancer, and stroke), which participants reported were diagnosed by a doctor or nurse [57, 62]. Subjective physical health was measured by participants’ perception of their own physical health compared with peers. Scores could range from 1 to 6 with higher scores indicating positive perceptions of health. Sleep habits was measured with the 19-item Pittsburgh Sleep Quality Index (PSQI) [8], which assesses seven components, including typical sleep quality, sleep latency, sleep duration, sleep efficiency, sleep maintenance, use of sleep medications, and daytime dysfunction. A sum of the seven components was calculated to represent the global sleep habits score that can range from 0 to 21 with higher scores indicating poor sleep. Resting systolic and diastolic blood pressures was monitored using an oscillometric automated device (A & D model UA-767; Milpitas California) while the participant was sitting. Three simultaneous readings were taken and an average reading was calculated. The average reading for each measurement of blood pressure (systolic and diastolic) was included in this study’s analyses. A 17-item questionnaire [29] was used to measure physical functioning based on participants’ reports of difficulties in activities of daily living (ADL; e.g., eating and grooming) and instrumental activities of daily living (IADL; e.g., finances and driving).

**Statistical Approach**

Pearson and Spearman correlations assessed the associations between satisfaction of each of the domains of life and the sociodemographic, mental health, and physical health variables (Tables 1, 2, and 3). For each life domain, a multiple linear regression model was conducted including any significantly correlated sociodemographic, personality, mental/physical health variable. The regressions were conducted to determine which sociodemographic, personality, and mental/physical health variable remained significantly associated with life satisfaction in a specific domain after accounting for the covariates (Table 4). All analyses were conducted utilizing SPSS software (version 23).

**Results**

The current study included 93 participants with a mean age of 67 (SD = 7.40, range = 55–86; see Table 1 for demographic characteristics of the sample). A majority (n = 72; 77%) of the participants were female. The participants’ average years of education was relatively high (M = 14.71, SD = 2.87). On average, the sample had a total gross monthly income of $1500 to $1600. Approximately, 38% reported signs of financial strain. On average, participants reported low depressive symptoms (M = 1.40, SD = 1.82) and approximately three health conditions (M = 3.11, SD = 2.01). However, the average PSQI global score (M = 8.10, SD = 3.93) for the study sample was above the clinical cutoff score of 6, which is indicative of poor sleep habits [8]. Participants typically reported feeling satisfied across all the domains but reported the highest levels of satisfaction for home condition (M = 2.10, SD = 1.11) and the lowest levels of satisfaction for health (M = 3.03, SD = 1.11). The current study’s demographic characteristics are similar to Census data in terms of a high percentage of
Table 1  Sample characteristics

|                          | n (%) | Range  | Mean  | SD   |
|--------------------------|-------|--------|-------|------|
| Age, years               | –     | 55–86  | 66.58 | 7.40 |
| Gender, female           | 72 (77.4) | –     | –     | –    |
| Education years          | –     | 8–22   | 14.71 | 2.87 |
| Education quality        | –     | 24–56  | 43.47 | 6.48 |
| Income                   | –     | 0–23   | 15.82 | 6.92 |
| Financial strain         | –     | 0–3    | 1.25  | 1.02 |
| Discrimination           | –     | 25–54  | 43.15 | 6.83 |
| Depression               | –     | 0–9    | 31.23 | 1.40 |
| Stress                   | –     | 6–49   | 5.08  | 1.74 |
| Subjective mental health | –     | 0–6    | 2.38  | 1.01 |
| Subjective memory        | –     | 0–8    | 3.11  | 2.01 |
| Health conditions        | –     | 1–6    | 5.08  | 1.00 |
| Subjective physical health| –   | 1–6    | 5.08  | 1.00 |
| Global PSQI              | –     | 1–18   | 8.10  | 3.93 |
| ADL                      | –     | 0–12   | 2.54  | 2.85 |
| IADL                     | –     | 0–15   | 1.66  | 3.16 |
| Systolic blood pressure  | –     | 102–203| 144.96| 23.98|
| Diastolic blood pressure | –     | 49–111 | 80.04 | 11.58|
| Satisfaction in life domains | – | 1–5    | 3.90  | 1.11 |
| Home condition           | –     | 1–5    | 3.82  | 0.94 |
| City of residence        | –     | 1–5    | 3.73  | 1.01 |
| Family life              | –     | 1–5    | 3.82  | 0.98 |
| Daily life/leisure       | –     | 1–5    | 2.97  | 1.11 |
| Health                   | –     | 1–5    | 2.99  | 1.12 |
| Total household income   | –     | 1–5    | 3.28  | 1.07 |
| Current financial situation| – | 1–5    | 3.86  | 0.89 |

Table 2  Associations between life satisfaction domains and participant characteristics

|                          | Home condition | City of residence | Daily life/leisure | Family life | Current financial situation | Total household income | Health | Life as a whole |
|--------------------------|----------------|-------------------|--------------------|------------|-----------------------------|------------------------|--------|-----------------|
| Age                      | 0.16           | 0.05              | 0.25*              | 0.18       | 0.20                        | 0.21*                  | 0.18   | 0.25*           |
| Sex*                     | −0.08          | 0.05              | −0.05              | 0.08       | −0.11                       | −0.09                  | 0.02   | 0.05            |
| Education years          | −0.08          | −0.08             | −0.14              | −0.25*     | 0.15                        | 0.12                   | 0.07   | −0.05           |
| Education quality        | −0.08          | −0.09             | −0.06              | −0.08      | −0.11                       | −0.11                  | 0.00   | −0.05           |
| Income                   | 0.10           | −0.13             | 0.01               | −0.06      | 0.35**                      | 0.28**                 | 0.06   | 0.02            |
| Financial Strain         | −0.09          | −0.01             | −0.23*             | 0.03       | −0.59**                     | −0.57**                | −0.13  | −0.19           |
| Discrimination           | 0.15           | 0.18              | 0.25*              | 0.37**     | 0.13                        | 0.11                   | 0.06   | 0.32**          |
| Personality Traits       |               |                   |                    |            |                             |                        |        |                 |
| Extraversion             | 0.15           | 0.24*             | 0.03               | −0.03      | 0.06                        | 0.09                   | 0.16   | 0.16            |
| Agreeableness            | 0.22*          | 0.18              | 0.20               | 0.27**     | 0.00                        | 0.05                   | 0.10   | 0.31**          |
| Conscientiousness        | 0.29**         | 0.16              | 0.15               | 0.08       | 0.08                        | 0.08                   | 0.09   | 0.15            |
| Neuroticism              | −0.27**        | −0.15             | −0.28**            | −0.22*     | −0.18                       | −0.16                  | −0.17  | −0.32**         |
| Openness                 | 0.11           | −0.06             | −0.01              | −0.12      | 0.10                        | 0.06                   | 0.23*  | 0.06            |

*p < 0.05. **p < 0.01. * Spearman correlation conducted
Black adults reporting ages between 55 and 64 (Tampa Study 47.3% compared with US population 53.2% and FL population 52.1%; see supplemental Table 2). However, there was a greater proportion of Black women (Tampa Study 77.4% compared with US population 52.1% and FL population 51.8%) and of those reporting more than 12 years of education (Tampa Study 78.5% compared with US population 53.1% and FL population 48.2%) than national data.

**Associations among Life Satisfaction Domains**

Most domains of life satisfaction were intercorrelated. The correlations indicated that higher levels of satisfaction in one domain were related to higher levels of satisfaction in another domain (Supplemental Table 1). Non-significant correlations of life satisfaction were observed for the domain of city of residence. Specifically, life satisfaction in city of residence was not significantly correlated with life satisfaction in total household income or health.

**Life Satisfaction as It Relates to Participant Characteristics**

Age, years of education, income, financial strain, discrimination, and personality traits were correlated with various life satisfaction domains (Table 2). Specifically, increased age was correlated with greater satisfaction in (a) daily life/leisure, (b) total household income, and (c) life as a whole. Given the large age range of the sample, subsequent one-way univariate ANOVA were conducted to examine age groups (midlife, 55–79 years of age; young-old, 70–79 years of age; oldest old, 80 years of age and older) in relation to levels of life satisfaction. Significant age group differences were observed for daily life/leisure (F(2, 90) = 2.88, p < .05; see Fig. 1). Although a similar age group difference was observed for life as a whole, it was not significant (F(2, 90) = 2.88, p = .06, η2 = 0.06).

Having fewer years of education was only correlated with greater life satisfaction in family life. Higher income was correlated with greater satisfaction in (a) current financial situation and (b) total household income. Lower levels of financial strain were correlated with greater satisfaction in (a) daily life/leisure, (b) current financial situation, and (c) total household income. Finally, low frequency of perceived discrimination was correlated with greater satisfaction in (a) daily life/leisure, (b) family life, and (c) life as a whole.
Table 4  Multiple linear regression models to examine life satisfaction domains as it relates to participant characteristics, mental health, and physical health

|                          | Home condition | City of residence | Daily life/leisure | Family life | Current financial situation | Total household income | Health | Life as a whole |
|--------------------------|----------------|-------------------|--------------------|-------------|-----------------------------|------------------------|--------|----------------|
| **Sociodemographics**    |                |                   |                    |             |                             |                        |        |                |
| Age                      | –              | –                 | –                  | –           | –                           | –                      | –      | –              |
| Education years          | –              | –                 | –                  | –           | 0.10 (0.03)**               | –                      | –      | –              |
| Income                   | –              | –                 | –                  | –           | –                           | 0.07 (0.02)            | 0.00 (0.02) | –              |
| Financial strain         | –              | –                 | –                  | –           | –                           | –0.51 (0.11)***        | –0.52 (0.11)*** | –              |
| Discrimination           | –              | –                 | –                  | –           | –                           | –                      | –      | –              |
| **Personality traits**   |                |                   |                    |             |                             |                        |        |                |
| Extraversion             | –              | –                 | –                  | –           | –                           | –                      | –      | –              |
| Agreeableness            | –0.09 (0.31)   | –                 | –                  | –           | –                           | –                      | –      | –              |
| Conscientiousness        | –0.14 (0.23)   | –                 | –                  | –           | –                           | –                      | –      | –              |
| Neuroticism              | 0.09 (0.18)    | –                 | 0.03 (0.14)        | 0.02 (0.15) | –                           | –                      | –      | –              |
| Openness                 | –              | –                 | –                  | –           | –                           | 0.02 (0.14)            | –      | –              |
| **Mental health**        |                |                   |                    |             |                             |                        |        |                |
| Depression               | 0.19 (0.07)    | 0.13 (0.06)*      | 0.11 (0.07)        | 0.06 (0.07) | 0.13 (0.06)                | 0.09 (0.07)            | 0.09 (0.06) | 0.12 (0.06)*   |
| Stress                   | –              | –                 | –                  | –           | 0.02 (0.02)                | –                      | –      | –              |
| Subjective mental health | –              | –0.13 (0.09)      | –0.14 (0.11)       | –0.00 (0.11) | –                           | –                      | –      | –              |
| **Physical health**      |                |                   |                    |             |                             |                        |        |                |
| Health conditions        | –              | –                 | –                  | –           | –                           | 0.10 (0.05)            | –      | –              |
| Sleep quality            | –              | 0.01 (0.03)       | 0.05 (0.03)        | 0.01 (0.03) | –                           | –                      | 0.00 (0.02) | –              |
| Subjective physical health| –              | –                 | –0.01 (0.13)       | –0.16 (0.13)| –0.03 (0.12)              | –0.06 (0.12)           | –0.53 (0.14)*** | –0.18 (0.11)   |
| ADL                      | –              | –                 | –                  | –           | 0.11 (0.04)                | –                      | 0.01 (0.04) | –              |
| **R²**                   | 0.14           | 0.17              | 0.29               | 0.29        | 0.39                        | 0.35                   | 0.41   | 0.37           |
| F-ratio                  | 3.50           | 4.48              | 4.21               | 3.75        | 11.31                       | 9.35                   | 10.05  | 6.21           |
| p value                  | 0.010          | 0.002             | <0.001             | <0.001      | <0.001                      | <0.001                 | <0.001 | <0.001         |

For each life satisfaction domain, only significantly correlated participant characteristics, mental health, and physical health variables were included in the models. Numbers in cells reflect the standardized coefficients (standard errors). Participant characteristics represent sociodemographics and personality traits. *p < 0.05. **p < 0.01. ***p < 0.001
The association between life satisfaction and personality traits varied across the life domains. Low neuroticism was significantly correlated with greater satisfaction in (a) home condition, (b) daily life/leisure, (c) family life, and (d) life as a whole. High agreeableness was significantly correlated with greater satisfaction in (a) home condition, (b) family life, and (c) life as a whole. High extraversion was only significantly associated with greater satisfaction in city of residence. High openness was only significantly associated with greater satisfaction in health. High conscientiousness was only significantly associated with greater satisfaction in home condition.

**Life Satisfaction as It Relates to Mental Health**

Lower depressive symptoms were consistently correlated with greater satisfaction across all life domains (Table 3), although lower perceived stress levels were only significantly correlated with greater satisfaction in family life. High positive ratings of subjective mental health were correlated with greater satisfaction in (a) city of residence, (b) daily life/leisure, (c) family life, (d) health, and (e) life as a whole. Subjective memory complaints were not significantly correlated with any of the life satisfaction domains. Furthermore, none of the life satisfaction domains were correlated with any of the performance-based tests of cognition.

**Life Satisfaction as It Relates to Physical Health**

Lower numbers of health conditions were correlated with greater satisfaction in health, but not with any of the other life domains (Table 3). However, high positive ratings of subjective physical health were correlated with greater satisfaction in (a) daily life/leisure, (b) family life, (c) current financial situation, (d) total household income, (e) health, and (f) life as a whole. Better overall sleep quality was correlated with greater satisfaction in (a) city of residence, (b) family life, (c) daily life/leisure, and (d) life as a whole. While reports of better functioning in ADLs was significantly correlated with greater satisfaction strictly in current financial situation and health, there was no significant correlation between functioning in IADLs and any of the life satisfaction domains. No significant correlations were observed for blood pressure (systolic and diastolic) and any of the life satisfaction domains.

**Unique Correlates of Life Satisfaction Domains**

Regression analyses suggested that lower depressive symptoms remained significantly associated with greater satisfaction particularly in the domains of city of residence and life as a whole even after accounting for the other sociodemographics, personality traits, mental health, and physical health covariates (Table 4). Financial strain, but not income, remained significantly associated with greater satisfaction in the domains of current financial situation and total household income after adjusting for other covariates. Reduced years of education remained a significant correlate of greater life satisfaction in family life after adjusting for other covariates. Finally, subjective physical health, but not other metrics of physical health, remained significantly associated with greater life satisfaction in health after adjusting for other covariates.
Discussion

Benefit of Exploring Life Satisfaction as a Multi-Domain Vs. Single-Domain Construct

Many studies have focused on overall life satisfaction as a single-domain construct [30]. However, the current study explored life satisfaction as a potential multi-domain construct because this approach may allow us to understand how multiple facets of life differentially influence middle-aged or older Black adults’ satisfaction with life. The current study’s findings suggest that levels of satisfaction do vary across life domains (e.g., family, health, finances). This is supported by results reported by Lim et al. [30], who found that “a single domain of life satisfaction (LS) or overall LS will miss many important aspects of LS as age-related LS is multi-faceted and complicated (p. 12)”. Hence, examining life satisfaction as single-domain construct very likely masks meaningful information on the specific aspects of older adults’ life that relate to their health and well-being.

While satisfaction with life as a whole was associated with levels of satisfaction in the more specific domains, the association with the domain of daily life/leisure had the strongest magnitude. Late-life involvement in meaningful leisure activities may foster community supports [21] and social connectedness [58], which are both associated with greater life satisfaction in older adults [44]. This was particularly true for older adults that engaged in more active leisure pursuits (e.g., volunteerism, involvement in clubs and/or organizations, and traveling), as compared with passive leisure pursuits (e.g., reading, telephoning, watching TV) [11]. Thus, our study supports the significance of programs that promote involvement in active and meaningful leisure activity which have direct and indirect benefits for life satisfaction, particularly in Black adults.

Correlates of Life Satisfaction Across the Domains

Although Black adults are at-risk for experiencing social disadvantage across the life course [59], life satisfaction within older Blacks tends to be higher compared with older Whites [10, 42]. These findings suggest that life satisfaction may be a source of resiliency for Black adults. Thus, we sought to expand upon this previous work by attempting to identify correlates of life satisfaction within older Black adults. Prior research exploring this topic has observed that demographic (e.g., age) and social factors (e.g., family closeness) are significantly associated with Black adults’ life satisfaction, but the prior work has typically examined life satisfaction as a single broad domain capturing life satisfaction as a whole. While this single domain of life satisfaction is useful, a more refined look at specific factors that underlie this overall finding is warranted, as we present here. Since minority groups may have unique and heterogeneous cultural experiences, strictly focusing on the overall score may reduce the likelihood of understanding these domains from diverse perspectives and potentially identifying various sources of resiliency for Black adults. Furthermore, our study expanded upon existing research by exploring multiple sociodemographic, health, and psychosocial indices that may be associated with these domains. Our results demonstrated that various domains of life satisfaction among older Blacks were associated with demographics (e.g., age, education, financial strain), subjective health ratings, depressive symptoms, perceived stress, better sleep quality and personality traits (e.g., agreeableness and neuroticism). In the regression models, we observed that lower depressive symptoms, less financial strain, less years of education, and subjective physical health were unique correlates of life satisfaction across multiple domains, even after accounting for other sociodemographic, personality traits, mental health, and physical health covariates.

Depressive symptoms, in particular, were the variable most often correlated across the domains of life satisfaction. This finding was intriguing, considering the sample, on average (M = 1.40, SD = 1.82), did not have a GDS total score above the clinical cutoff of 4, which reflects depression risk. This is similar to other work [3]. Together, these findings suggest that depressive symptomology is an important correlate of life satisfaction, even within individuals who do not appear to be at risk for depression. One possible explanation for this depression symptom-life satisfaction association is the higher rate of chronic medical conditions among Black adults may cause somatic symptoms, such as pain, which may lead to an increase of depressive symptomology and ultimately lower life satisfaction [3].

In addition, it is likely that limited or no accessible environmental resources (e.g., transportation and affordable healthcare) may also play a role in the associations among these parameters, which may further explain our observed relationship between depression and satisfaction in the city of residence domain even after accounting for other significant covariates. Additionally, chronic medical conditions coupled with somatic symptoms may also deter individuals from being socially engaged with family/peers or participating in everyday activities, which can also prompt depressive symptomology and lower satisfaction [3]. This latter explanation seems particularly reasonable for the observed association between depression and satisfaction for life as a whole. However, a study that includes these proposed individual and environmental parameters is needed to further disentangle these interconnected patterns.

We observed that less years of education was associated with greater satisfaction in family life, which is inconsistent with prior observations [7]. It is unclear why we observed this unusual finding, but we speculate that older adults with lower levels of education in our sample may use family and social
networks to exchange and obtain information and resources, which increases opportunities for intimate bonding with family [4]. Prior work has supported that Black adults’ life satisfaction tends to be higher when frequency of contact with family is high [38, 56], especially for adults who do not feel particularly close to their family [38]. It is also possible that during younger adulthood, highly educated Black adults are in occupations where they may experience more frequent workplace demands, which may elicit or worsen family strain and lower levels of satisfaction in family life [54]. This potential family strain might spill over into later life, even after retirement, maintaining low levels of satisfaction in family life.

Inconsistent with prior literature [2, 66], our findings did not support that levels of life satisfaction are associated with objective indicators of cognitive and physical functioning. One possible interpretation for these inconsistent findings is that within our older Black adults, life satisfaction may not be directly related to these objective measures of health, but indirectly related to these indices mediated through psychosocial factors (e.g., social connectedness and self-efficacy). Furthermore, this indirect association may not be evident in the current project’s cross-sectional research design, but rather in a longitudinal research design.

Limitations

Although this study has promising findings, there are potential limitations worth discussing. First, this study’s cross-sectional design limits the ability to explore if the levels of satisfaction across the domains are static or dynamic over time. We speculate that levels of satisfaction for some domains, such as health, will likely shift over time more so than other domains, such as city of residence, particularly within an older adult population. However, longitudinal study designs are warranted to explore these potential changes in life satisfaction and the influential factors of these changes, which could improve our understanding of life satisfaction during late adulthood. Second, this study did not include some culturally relevant factors that have previously been shown to be related to life satisfaction in Black adults. For example, religious factors (e.g., church-based emotional support and church attendance) have been associated with greater overall life satisfaction [13, 23, 56]. As a follow-up to these studies, it would be interesting to explore how the association between religious factors and satisfaction might vary across the life domains included in the current study (e.g., health, family, and leisure activities). Empirical evidence from this research could assist in pinpointing aspects of older Black adults’ lives where religious services could be beneficial in strengthening satisfaction within that life domain. Third, the findings observed in our study sample, who tended to be highly educated Black adults, may not be observed in older Black adults residing in other geographic settings or other older minority groups. Given we observed several sociodemographic, personality, and mental/physical health parameters were associated with the environmental domains (e.g., city of residence and home condition) of life satisfaction, it is also likely that these associations may differ in another geographic location. As such, further research that replicates our study in various geographic locations might improve our understanding of neighborhood characteristics conducive to the older residents’ well-being, a desired objective for developing global age friendly neighborhoods [37]. However, the demographic characteristics of this study’s older Black adult sample is comparable to the sample characteristics of other studies (e.g., Baltimore Study of Black Aging (BSBA; [9, 49]); and Minority Aging Research Study (MARS; [5, 27]) that have also focused on health and well-being in older Black adults.

Despite these study limitations, the current study illustrates that life satisfaction should be explored as a multi-domain construct given the complexity of life for older adults, particularly for older Blacks. By exploring life satisfaction as a single-domain, we are likely masking meaningful determinants and consequences of satisfaction across life domains. We found that satisfaction may increase with advancing old age, at least in some life domains (e.g., daily life/leisure). However, advancing age is not necessarily associated with satisfaction in other life domains (e.g., health). Our study provides some preliminary support that operational definition for life satisfaction would benefit from being modified, particularly as it pertains to older diverse populations.

The evaluation of life satisfaction domains may provide rich information to specific individual needs, which may guide and inform community-level initiatives, health-related programs, and/or interventions designed to enhance quality of life within older Blacks.

Authors’ Contributions Alyssa Gamaldo (assistant professor), Angie Sardina (assistant professor), Shyuan Ching Tan (graduate student), Lesley Ross (associate professor), Lauren Gerlin (undergraduate student), Terrence Knox (undergraduate student), Dominique Prawl (undergraduate student), Katherine Argueta Portillo (undergraduate student), and Ross Andel (professor) are interested in identifying factors associated with physical/cognitive functioning with age.

Funding This research was supported by Byrd Alzheimer’s Institute Small Grants Program (BRD215).

Availability of Data and Material Data can be made available upon request.

Compliance with Ethical Standards

Conflicts of Interest The authors declare that they have no conflict of interest.

Code Availability Non applicable.
References

1. Amariglio RE, Townsend MK, Grodstein F, Sperling RA, Rentz DM. Specific subjective memory complaints in older persons may indicate poor cognitive function. J Am Geriatr Soc. 2011;59(9):1612–7.

2. August KJ, Sorkin DH. Racial and ethnic disparities in indicators of physical health status: do they still exist throughout late life? J Am Geriatr Soc. 2010;58(10):2009–15. https://doi.org/10.1111/j.1532-5415.2010.03033.x.

3. Baker TA, Buchanan NT, Small BJ, Hines RD, Whitfield KE. Identifying the relationship between chronic pain, depression, and life satisfaction in older African Americans. Res Aging. 2011;33(4):426–43.

4. Ball RE. Family and friends: a supportive network for low-income American Black families. J Comp Fam Stud. 1983;14(1):51–65.

5. Barnes LL, Shah RC, Aggarwal NT, Bennett DA, Schneider JA. The minority aging research study: ongoing efforts to obtain brain donation in African Americans without dementia. Curr Alzheimer Res. 2012;9(6):734–45.

6. Bouma A, Mulder J, Lindeboom J, Schmand B, eds. Handboek neuropsychologische diagnostiek.-2e herz. dr: AmsterdamPearson9789026517976. 2012.

7. Broman CL. Race-related factors and life satisfaction among African Americans. J Black Psychol. 1997;23(1):36–49.

8. Buysse DJ, Reynolds CF III, Monk TH, Berman SR, Kupfer DJ. The Pittsburgh sleep quality index: a new instrument for psychiatric practice and research. Psychiatry Res. 1989;28(2):193–213.

9. Cary MP Jr, Thorpe RJ Jr, Walker JL, Gamaldo AA, Allaire JC, Sims RC, Whitfield KE. The effects of social support on physical functioning in older African Americans: longitudinal results from the Baltimore Study of Black Aging. J Natl Med Assoc. 2016;108(4):195–200.

10. Chen YP. Economic status of the aging. In: Binstock RH, Shanas E, editors. Handbook of aging and the social sciences. New York: Van Nostrand Reinhold; 1985. p. 641–65.

11. Cho D, Post J, Kim SK. Comparison of passive and active leisure activities and life satisfaction with aging. Geriatr Gerontol Int. 2018;18(3):380–6.

12. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. J Health Soc Behav. 1983;24(4):385–396.

13. Coke MM. Correlates of life satisfaction among elderly African Americans. J Gerontol. 1992;47(5):P316–20.

14. Craik F. Changes in memory with normal aging: a functional view. Adv Neurol. 1990;51:201–5.

15. Evans MK, Lepkowski JM, Powe NR, LaVeist T, Kuczmarski MF, Zonderman AB. Healthy aging in neighborhoods of diversity across the life span (HANDLS): overcoming barriers to implementing a longitudinal, epidemiologic, urban study of health, race, and socio-economic status. Ethn Dis. 2010;20(3):267–75.

16. Folstein MF, Folstein SE, McHugh PR. “Mini-mental state”: a practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res. 1975;12(3):189–98.

17. Forte R, Boreham C, De Vito G, Pesce C. Health and quality of life perception in older adults: the joint role of cognitive efficiency and functional mobility. Int J Environ Res Public Health. 2015;12(9):11328–44.

18. French JW, Ekstrom RB, Price LA. Kit of reference tests for cognitive factors. Princeton: Educational Testing Service; 1963.

19. Gamaldo AA, Allaire JC, Sims RC, Whitfield KE. Assessing mild cognitive impairment among older African Americans. Int J Geriatr Psychiatry. 2010;25(7):748–55.

20. Gamaldo AA, Tan SC, Sardina AL, Henzi C, Guest R, Ross LA, et al. Older Black adults’ satisfaction and anxiety levels after completing alternative versus traditional cognitive batteries. J Gerontol B Psychol. 2020;75(7):1462–1474.

21. Gow AJ, Pattie A, Whiteman MC, Whalley LJ, Deary IJ. Social support and successful aging: investigating the relationships between lifetime cognitive change and life satisfaction. J Individ Differ. 2007;28(3):103–15.

22. Goyat V, Vyas A, Sambamoorthi U. Racial/ethnic disparities in disability prevalence. J Racial Ethn Health Disparities. 2016;3(4):635–45.

23. Jackson JS, Bacon JD, Peterson J. Life satisfaction among black urban elderly. Int J Aging Hum Dev. 1978;2(8):169–79.

24. John OP, Srivastava S. The big five trait taxonomy: history, measurement, and theoretical perspectives. Handbook of personality: Theory and research, 1999 2(1999):102–138.

25. Kaplan E, Goodglass H, Wemtraub S. The Boston naming test. Philadelphia: Lea & Febiger; 1983.

26. Koivumaa-Honkanen H, Honkanen R, Viinamäki H, Heikkinen K, Kaprio J, Koskenvuo M. Self-reported life satisfaction and 20-year mortality in healthy Finnish adults. Am J Epidemiol. 2000;152(10):983–91.

27. Lamar M, Lerner AJ, James BD, Yu L, Glover CM, Wilson RS, et al. Relationship of early-life residence and educational experience to level and change in cognitive functioning: results of the minority aging research study. J Gerontol B Psychol Sci Soc Sci. 2020;75(7):e81–92.

28. Langlois F, Vu TTM, Kergoat M-J, Chassé K, Dupuis G, Bherer L. The multiple dimensions of frailty: physical capacity, cognition, and quality of life. Int Psychogeriatr. 2012;24(9):1429–36.

29. Lawton MP, Brody EM. Assessment of older people: self-maintaining and instrumental activities of daily living. The Gerontologist. 1969;9(3 Part_1):179–86.

30. Lim HJ, Min DK, Thorpe L, Lee CH. Multidimensional construct of life satisfaction in older adults in Korea: a six-year follow-up study. BMC Geriatr. 2016;16(1):197.

31. Lincoln KD, Taylor RJ, Chae DH, Chatters LM. Demographic correlates of psychological well-being and distress among older African Americans and Caribbean Black adults. Best Pract Ment Health. 2010;6(1):103–116.

32. Loewe N, Bagherzadeh M, Araya-Castillo L, Thieme C, Batista-Foguet JM. Life domain satisfactions as predictors of overall life satisfaction among workers: evidence from Chile. Soc Indic Res. 2014;118(1):71–86.

33. Manly JJ, Jacobs DM, Touradji P, Small SA, Stern Y. Reading disability prevalence. J Racial Ethn Health Disparities. 2016;3(4):45.

34. Margolis R, Myrskylä M. Family, money, and health: regional differences in life satisfaction among workers: evidence from Chile. Soc Indic Res. 2014;118(1):71–86.

35. Mroczek DK, Spiro A III. Change in life satisfaction during adulthood: findings from the veterans affairs normative aging study. BMC Geriatr. 2016;16(1):197.

36. Mrozek DK, Spiro A III. Change in life satisfaction during adulthood: findings from the veterans affairs normative aging study. J Pers Soc Psychol. 2005;88(1):189–202.

37. Nasreddine ZS, Phillips NA, Bédirian V, Charbonneau S, Whitehead V, Collin I, et al. The Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment. J Am Geriatr Soc. 2005;53(4):695–9.

38. Neal M, DeLaTorre A. The WHO age-friendly cities project. Generations. 2009;33(2):74–5.

39. Nguyen AW, Chatters LM, Taylor RJ, Mouzon DM. Social support from family and friends and subjective well-being of older African Americans. J Happiness Stud. 2016;17(3):959–79.

40. Ortiz-Ospina E, Roser M. Happiness and life satisfaction. 2017. Retrieved from https://ourworldindata.org/happiness-and-life-satisfaction.

41. Ostir GV, Markides KS, Black SA, Goodwin JS. Emotional well-being predicts subsequent functional independence and survival. J Am Geriatr Soc. 2000;48(5):473–8.
41. Pavot W, Diener E. The satisfaction with life scale and the emerging construct of life satisfaction. J Posit Psychol. 2008;3(2):137–52.
42. Peterson C, Park N, Seligman ME. Orientations to happiness and life satisfaction: the full life versus the empty life. J Happiness Stud. 2005;6(1):25–41.
43. PEW. On views of race and inequality, Blacks and Whites are worlds apart. 2016. Retrieved from https://www.pewsocialtrends.org/2016/06/27/on-views-of-race-and-inequality-blacks-and-whites-are-worlds-apart/.
44. Ragheb MG, Griffith CA. The contribution of leisure participation and leisure satisfaction to life satisfaction of older persons. J Leis Res. 1982;14(4):295–306.
45. Reitan RM. Validity of the trail making test as an indicator of organic brain damage. Percept Mot Skills. 1958;8(3):271–6.
46. Sadler ME, Miller CJ, Christenssen K, McGue M. Subjective wellbeing and longevity: a co-twin control study. Twin Res Hum Genet. 2011;14(3):249–56.
47. Sheikh JI, Yesavage JA. Geriatric Depression Scale (GDS): recent evidence and development of a shorter version. Clin Gerontol J Aging Ment Health. 1986;5(1-2):165–173.
48. Siedlecki KL, Tucker-Drob EM, Oishi S, Salthouse TA. Life satisfaction across adulthood: different determinants at different ages? J Posit Psychol. 2008;3(3):153–64.
49. Sims RC, Allaire JC, Gamaldo AA, Edwards CL, Whitfield KE. An examination of dedifferentiation in cognition among African–American older adults. J Cross Cult Gerontol. 2009;24(2):193–208.
50. Sivan AB. Benton Visual Retention Test. San Antonio: Psychological Corporation; 1992.
51. Specht J, Egloff B, Schmukle SC. Examining mechanisms of personality maturation: the impact of life satisfaction on the development of the big five personality traits. Soc Psychol Personal Sci. 2013;4(2):181–9.
52. Spreitzer E, Snyder EE. Correlates of life satisfaction among the aged. J Gerontol. 1974;29(4):454–8.
53. Strine TW, Chapman DP, Balluz LS, Moriarty DG, Mokdad AH. The associations between life satisfaction and health-related quality of life, chronic illness, and health behaviors among US community-dwelling adults. J Community Health. 2008;33(1):40–50.
54. Sun X, McHale SM, Crouter AC, Jones DE. Longitudinal links between work experiences and marital satisfaction in African American dual-earner couples. J Fam Psychol. 2017;31(8):1029–39.
55. Szanton SL, Thorpe RJ, Whitfield K. Life-course financial strain and health in African–Americans. Soc Sci Med. 2010;71(2):259–65.
56. Taylor RJ, Chatters LM, Hardison CB, Riley A. Informal social support networks and subjective well-being among African Americans. J Black Psychol. 2001;27(4):439–63.
57. Thorpe RJ Jr, Szanton SL, Bell CN, Whitfield KE. Education, income and disability in African Americans. Ethn Dis. 2013;23(1):12–7.
58. Toepoel V. Ageing, leisure, and social connectedness: how could leisure help reduce social isolation of older people? Soc Indic Res. 2013;113(1):355–72.
59. Umberson D, Williams K, Thomas PA, Liu H, Thomeer MB. Race, gender, and chains of disadvantage: childhood adversity, social relationships, and health. J Health Soc Behav. 2014;55(1):20–38.
60. Wechsler D. Wechsler Adult Intelligence Scale (WAIS). New York: Psychological Corporation; 1955.
61. Whitfield KE, Baker TA. Handbook of minority aging. New York: Springer Publishing Company; 2013.
62. Whitfield KE, Fillenbaum GG, Pieper C, Albert MS, Berkman LF, Blazer DG, et al. The effect of race and health-related factors on naming and memory: the MacArthur studies of successful aging. J Aging Health. 2000;12(1):69–89.
63. Wilkinson GS. Wide range achievement test–revision 3. Wilmington: Jastak Association; 1993.
64. Williams DR, Yu Y, Jackson JS, Anderson NB. Racial differences in physical and mental health: socio-economic status, stress and discrimination. J Health Psychol. 1997;2(3):335–51.
65. Yesavage JA, Sheikh JI. Geriatric Depression Scale (GDS): recent evidence and development of a shorter version. Clin Gerontol. 1986;5(4):165–73.
66. Zhang Z, Hayward MD, Yu Y-L. Life course pathways to racial disparities in cognitive impairment among older Americans. J Health Soc Behav. 2016;57(2):184–99.

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