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Factors related to life satisfaction among urban African American adults receiving care at a publicly-funded sexual health clinic

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Abstract

Life satisfaction is linked to premature morbidity and mortality and it may be compromised for individuals living in economically-disadvantaged, urban neighborhoods. The present study explores how behavioral and social-environmental health factors are associated with life satisfaction among a sample of African American young adults. Participants ($N = 307$, $M_{age} = 26.6$ years, 53% male) were recruited from a publicly-funded clinic for a randomized controlled trial (RCT). Data from the baseline assessment of the RCT, which included measures of sleep, depression, anxiety, social support, alcohol and drug use problems, city stress, and life satisfaction, were used for the current study. Correlation analyses assessed bivariate associations between life satisfaction and the demographic and health-related factors. Linear regression using backward elimination determined the best fitting model of factors associated with life satisfaction. Backward elimination resulted in the following variables remaining as significantly associated with life satisfaction: age ($b = -2.40$, $p = .017$), anxiety ($b = -5.32$, $p < .001$), and social support ($b = 2.89$, $p = .004$). Feeling rested upon waking also remained in the best fitting model, although this association did not achieve statistical significance ($p = .099$). The results suggest that African American adults who are younger, less anxious, and report adequate social support are more likely to report satisfaction with life. These findings add to the literature aimed at examining health and social factors impacting the well-being of African Americans living in low-income, urban communities.

Keywords

Life satisfaction; urban; African Americans; health behavior; mental health

Introduction

Life satisfaction – an individual’s assessment of their quality of life based upon his or her own personal criteria (Shin & Johnson, 1978) – has been identified as a key factor with respect to premature morbidity and mortality (Diener, Emmons, Larsen, & Griffin, 1985; Diener et al., 2016). Research has established a strong link between life satisfaction and several health outcomes. For example, satisfaction with life has been found to be negatively associated with hypertension (Oswald & Blanchflower, 2008) and increases in salivary cortisol (Steptoe & Wardle, 2005). Older adults who report lower levels of life satisfaction experience an increased risk of mortality (St. John, Mackenzie, & Menec, 2015).

Various health behaviors have been associated with life satisfaction. For instance, participants in the United States and Western Europe who report greater life satisfaction also engaged in more physical activity and abstained from cigarette smoking (Grant, Wardle, & Steptoe, 2009). In this study, alcohol consumption was not associated with life satisfaction (Grant et al., 2009). However, other research found that alcohol-related problems were negatively associated with life satisfaction among college students (Murphy, McDevitt-Murphy, & Barnett, 2005). Furthermore, self-reported dissatisfaction with life has been strongly linked to poor sleep and symptoms depression and anxiety (Samaranayake, Arroll, & Fernando, 2014; Samaranayake & Fernando, 2011).

Social and environmental variables are also likely to play a role in self-reported life satisfaction. For instance, chronic environmental stressors and fears related to perceived safety have negative consequences on life satisfaction (Adams & Serpe, 2000; Pearlin, Menaghan, Lieberman, & Mullan, 1981). Living in urban neighborhoods with higher rates of crime, violence, and decrepit infrastructure undermines health and wellbeing, including increased risk of mental health and problems related to substance use (Seth, Murray, Braxton, & DiClemente, 2013; Watkins, Green, Rivers, & Rowell, 2006). However, social support is associated with subjective well-being, such that those with higher perceived social support and enacted support reported higher life satisfaction (Siedlecki, Salthouse, Oishi, & Jeswani, 2014). Individuals who are economically disadvantaged may report higher satisfaction with life when they have a social network that can be counted on to provide support if needed. Furthermore, a focus group conducted in the city of Baltimore found that social support was an important factor for promoting health behaviors among African American males (Amutah, Ramos, Hammonds, Hughes, & Syndor, 2016).

Overall, higher life satisfaction is associated with a number of positive health outcomes, and various individual and environmental factors influence life satisfaction. However, much of the research on life satisfaction has focused on older adult populations. For instance, studies have found that life satisfaction was related to risk of cognitive decline (St. John & Montgomery, 2010) and dementia (Peitsch, Tyas, Menec, & St. John, 2016) among older adults. The present study adds to the growing literature on life satisfaction within a younger sample.

Prior research in the U.S. has also focused on primarily white samples with fewer studies conducted with racial/ethnic minorities and those of lower socioeconomic status, who represent a particularly vulnerable population experiencing health inequity and lower life satisfaction (Tucker et al., 2007). The present study adds to the literature by focusing on African American adults. Therefore, this study sought to determine behavioral and social-environmental health factors most relevant to life satisfaction among low socioeconomic status, urban African American young adults receiving care at a publicly-funded health clinic. Because the study was conducted at a sexual health clinic, the sample may represent a particularly vulnerable population of individuals at heightened risk of sexually transmitted infections, including HIV. We sought to identify modifiable factors influencing life satisfaction that could positively impact health outcomes for urban African American adults. We hypothesized that life satisfaction would be greater among participants with fewer mental health symptoms, lower rates of substance use, higher quality sleep, regular physical activity, greater social support, and fewer environmental stressors.

Methods

Participants

The present study is a secondary data analysis of 307 African American younger adult patients attending an urban sexual health clinic. Participants were recruited and consented to participate in an NIH-funded randomized controlled trial (RCT) related to sexual risk reduction and health promotion (Carey et al., 2013, 2015). The original study was approved by an institutional review board and included 1010 participants who were randomized to complete one of two baseline questionnaires: a sexual risk survey or a general health survey. The current sample was restricted to include younger African American adults, aged 18 to 44, who completed the general health baseline questionnaire.

Measures

Demographics—Participants were asked to provide basic demographic information, including age, sex, and race/ethnicity, education, income, and marital status.

Life Satisfaction—The Satisfaction with Life Scale (SWLS; Diener et al., 1985) is a 5-item measure designed to assess an individual's appraisal of satisfaction with his or her life. Participants respond using a 7-point Likert scale ranging from *strongly disagree* to *strongly agree*, with higher scores indicating higher satisfaction with life. The SWLS is the most widely-used measure of life satisfaction and has strong psychometric properties (Pavot & Diener, 2008).

Substance Use Factors—Alcohol-related problems were assessed using the Short Inventory of Problems-2R (SIP-2R; Kiluk, Dreifuss, Weiss, Morgenstern, & Carroll, 2013). The SIP-2R is a 15-item measure that assesses past three-month problems using a 4 point Likert-type scale. Possible scores range from 0 to 45, with higher scores indicating greater problem severity. The 10-item version of the Drug Abuse Screening Test (DAST; Skinner, 1982) was used to examine past year drug use. The DAST is comprised of dichotomous items that assess various problems related to drug use, including engaging in illegal activities

and experiencing withdrawal symptoms. Tobacco use was assessed using a single item of how often a participant smoked in the past three months using a 5-point Likert scale ranging from *never* to *nearly every day*.

Mental and Physical Health Factors—Depression and anxiety were assessed using the Patient Health Questionnaire-4 (PHQ-4; Kroenke, Spitzer, Williams, & Löwe, 2009). The PHQ-4 is a 4-item measure that combines a 2-item depression screener (PHQ-2; Kroenke, Spitzer, & Williams, 2003) and a 2-item generalized anxiety screener (GAD-2; Kroenke, Spitzer, Williams, Monahan, & Löwe, 2007). The PHQ-4 has been established as a useful brief assessment in primary care and public health settings; it is an ideal assessment tool to reduce participant burden in studies with large assessment batteries (Kroenke et al., 2009).

Factors related to physical health included overall sleep, feeling rested upon waking, and physical activity. Sleep was assessed using the Sleep Problems Index II of the Medical Outcomes Sleep Scale (MOS-SS; Hays & Stewart, 1992). This index consists of nine items and uses a 6-point Likert type scale, with responses ranging from *none of the time* to *all of the time*. Higher scores on the MOS-SS indicate greater difficulties with sleep. The present study also included the single item assessing frequency of feeling rested in the morning over the past four weeks. This item uses the same 6-point Likert scale, ranging from *none of the time* to *all of the time*. Physical activity was assessed using the International Physical Activity Questionnaire (IPAQ; Craig et al., 2003), a well-known measure that was initially validated in adult samples in 12 countries. The IPAQ uses a 5-point Likert scale, with high scores indicating greater physical activity. The current study used three categories of low, moderate, and high physical activity, based on the IPAQ guidelines.

Social and Environmental Factors—The social support items of the Medical Outcomes Study (MOS-Social Support; Sherbourne & Stewart, 1991) assessed participant perceived social support. These 19 social support items have been found to have strong reliability and validity in adult samples (Sherbourne & Stewart, 1991). Specifically, the MOS-Social Support uses 5-point Likert-type responses, ranging from *none of the time* to *all of the time*, to assess four types of social support: emotional/informational, tangible, affectionate, and positive social interactions. The current study utilized the overall functional social support index, which encompasses all four sub-domains. The City Stress Inventory (CSI; Ewart & Suchday, 2002) was included to assess neighborhood factors associated with stress, such as exposure to illegal activity and violence. The CSI is a 16-item measure using 4-point Likert responses, ranging from *never* to *often*, with higher scores indicating greater neighborhood stress. This measure has been found to demonstrate reliability and validity in urban samples.

Statistical Analyses

Univariate statistics were used to describe sample characteristics. Correlation analyses assessed the bivariate associations among demographic and health-related factors and life satisfaction. Variables with significant bivariate associations were included in a backward elimination linear regression model to determine best fitting model of life satisfaction, using $p > .01$ as the elimination criteria (SPSS default criterion).

Results

Sample Characteristics

Table 1 displays demographic information for the current sample of African American adults aged 18 to 44 ($M = 26.6$, $SD = 6.6$, 54% male). Nearly 30% of participants did not complete high school, and an additional 17% earned a general education diploma (GED). Further, 21% graduated from high school, 23% completed some college courses, and nearly 10% earned a college degree. The majority of participants (86%) were single/never married, with 4.8% married, 5.5% separated, and 3.5% divorced. The majority of participants (55%) reporting less than \$15,000 in annual income, followed by 32% earning between \$15,000 and \$30,000, 7.7% earning between \$30,000 and \$45,000, and 2.3% earning over \$45,000. In the current sample, participants who were younger reported greater life satisfaction, $r = -.18$, $p = .001$. Other than age, no additional demographic factors were associated with life satisfaction.

Health Factors and Life Satisfaction

Table 2 provides descriptive information for health behaviors and bivariate correlations for each factor and the outcome of interest, life satisfaction. Significant negative associations emerged between life satisfaction and alcohol-related problems, $r = -.13$, $p = .028$, drug use problems, $r = -.15$, $p = .010$, and cigarette smoking, $r = -.12$, $p = .038$. Life satisfaction was also negatively associated with depression, $r = -.28$, $p < .001$, and anxiety, $r = -.32$, $p < .001$, such that those reporting fewer mental health symptoms endorsed higher satisfaction with life. Sleep problems, $r = -.18$, $p = .001$, and city stress, $r = -.16$, $p = .006$, were also significantly associated with life satisfaction. Participants who reported feeling rested after waking were more likely to report higher life satisfaction, $r = -.13$, $p = .019$. Similarly, those with greater social support were more likely to be satisfied with life, $r = .22$, $p < .001$. In this sample, physical activity was not significantly related to life satisfaction, $p = .89$.

Significant intercorrelations among independent/predictor variables ranged from $r = .14$ to $r = .62$. Of note, the Sleep Problem Index had a strong negative correlation with waking feeling rested, $r = .62$, $p < .001$. The PHQ scales for depression and anxiety were also strongly correlated, $r = .60$, $p < .001$. The Sleep Problem Index was highly associated with anxiety, $r = .34$, $p < .001$, and depression, $r = .44$, $p < .001$. Meanwhile, waking feeling rested was not significantly associated with anxiety, $r = -.08$, $p = .18$, but was marginally associated with depression, $r = -.17$, $p = .002$. Social support was also significantly negatively associated with depression, $r = -.26$, $p < .001$. Alcohol problems and drug related problems were also moderately correlated, $r = .44$, $p < .001$.

Regression Model

Demographic and health-related variables found to have statistically significant bivariate associations with life satisfaction were entered into a backward linear regression model with $p > .10$ as the elimination criterion. Table 3 shows backward elimination regression analyses resulted in the following variables remaining as significantly related to life satisfaction: age, $B = -.13$, 95% CI: $-.05, -.01$, $p = .021$, anxiety, $B = -.28$, 95% CI: $-.64, -.29$, $p < .001$, and social support, $B = .16$, 95% CI: $.07, .39$, $p = .005$. Feeling rested upon waking also

remained in the best fitting model, although this association did not achieve statistical significance ($p = .099$). Overall, social support, anxiety, age, and waking feeling rested accounted for 15% of the variance in life satisfaction ($R^2 = 0.15$).

Discussion

The results suggest that African American adults from an urban community who are younger, less anxious, and receive more social support are more likely to report satisfaction with life. Feeling rested is also a meaningful contributor to life satisfaction, though it is likely that its predictive contribution overlaps with other variables. These findings are consistent with previous research that noted the importance of sleep and anxiety on life satisfaction among young adults (Samaranayake et al., 2014). The current findings also corroborate prior research indicating associations between social factors and life satisfaction. For instance, prior research found that enacted and perceived social support increased subjective well-being (Siedlecki et al., 2014), and social support helps facilitate positive health behaviors among African American men in urban neighborhoods (Amutah et al., 2016). The results of the present study replicate and extend those findings, as social support was a significant contributor to life satisfaction among our sample of urban, low-SES African American adults.

Life satisfaction was associated with many of the behavioral health and social-environmental factors assessed in the present study. Given the various negative outcomes associated with dissatisfaction with life, it is important to consider potentially modifiable risk factors. Our findings suggest that social support and anxiety are independently associated with life satisfaction among urban African American Adults. Furthermore, depression and substance use were correlated with life satisfaction in our sample. It is likely that these factors were eliminated from the final regression model due to multicollinearity with other variables, most notably anxiety. Nonetheless, they may be important factors to consider at the individual (i.e., clinical) level. Lastly, sleep appears to be an important factor, particularly for individuals who report feeling rested in the morning. Future research should consider the contributing factors to “feeling rested” and the possible association it may have with subjective life satisfaction.

The current study has several limitations. First, because this was a secondary data analysis and the larger RCT was not designed to specifically investigate life satisfaction, we were not able to include the full range of possible predictors. Future research using a wider array of theory-based predictors is encouraged. Second, the data are cross-sectional; thus we cannot determine temporal ordering of the relationships between behavioral health variables and life satisfaction. Use of a longitudinal design would be necessary to make inferences regarding causal relationships. Third, multicollinearity was observed among behavioral and psychosocial predictors. Backward regression analysis was used to reduce the impact of this limitation. Finally, the findings are limited to African American adults aged 18 to 44 living in an urban setting in the northeastern United States and should not be considered representative of other demographic groups.

Despite these limitations, the present study adds to the current literature on life satisfaction among vulnerable populations. Given that life satisfaction is a subjective construct, it may be useful to understand which factors are most meaningful for those in lower SES communities. Interventions aimed at improving health outcomes should consider factors that appear to positively influence subjective life satisfaction. The findings of the current study suggest that addressing anxiety and improving social support are meaningful targets for enhancing life satisfaction among urban African American adults receiving care at publicly funded health clinics. Research should continue to consider life satisfaction as an important indicator of health and well-being, particularly as it has been shown to contribute to premature morbidity and mortality. Additional research is needed, with longitudinal design, to truly understand the link between these factors and life satisfaction.

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Table 1

Sample characteristics and association with life satisfaction ($N = 310$).

	<i>Life Satisfaction Score</i>				
	<i>N</i>	<i>%</i>	<i>M</i>	<i>SD</i>	<i>F</i>
Sex					1.14
Female	143	46.1	4.2	1.5	
Male	167	53.8	4.1	4.5	
Education					0.32
< High School	92	29.7	4.2	1.4	
> High School	218	70.3	4.1	1.5	
Marital Status					1.22
Married	15	4.8	3.6	1.8	
Divorced	11	3.5	4.0	1.5	
Separated	17	5.5	3.7	1.8	
Single	267	86.1	4.2	1.4	
Income					1.28
< \$15,000	172	55.5	4.0	1.5	
\$15,000 – 30,000	98	31.6	4.2	1.4	
\$30,000 – 45,000	24	7.7	4.6	1.3	
> \$45,000	7	2.3	3.3	1.3	

Note:

* $p < .05$

Table 2

Behavioral health scales and correlations with life satisfaction.

	<i>M</i>	<i>SD</i>	Range	<i>r</i>
Life Satisfaction (SWLS)	4.1	1.5	1–7	-
Alcohol (SIP-2R)	3.3	7.0	0–45	-.13 *
Drug Use (DAST)	1.2	2.0	0–10	-.15 *
Smoking Cigarettes	2.2	1.8	0–4	-.12 *
Anxiety (PHQ-4)	0.9	0.9	0–3	-.32 ***
Depression (PHQ-4)	0.8	0.8	0–3	-.28 ***
Sleep Problems (MOS-Sleep)	1.7	0.8	0–5	-.14 *
Wake Feeling Rested	2.5	1.5	0–5	.13 *
Physical Activity (IPAQ)	2.1	0.8	1–3	.01
Social Support (MOS-SS)	3.7	1.0	1–5	.22 ***
City Stress (CSI)	2.3	0.8	1–4	-.16 **

Note: SWLS = Satisfaction with Life Scale; SIP-2R = Short Inventory of Problems – 2nd Revision; DAST = Drug Abuse Screening Test; PHQ-4 = Patient Health Questionnaire; MOS-Sleep = Medical Outcomes Study-Sleep; IPAQ = International Physical Activity Questionnaire; MOS-SS = Medical Outcomes Study-Social Support; CSI = City Stress Inventory;

*
 $p < .05$;

**
 $p < .01$;

 $p < .001$

Backward multiple linear regression of factors associated with life satisfaction among African American patients presenting to an STD clinic in an urban community

Table 3

	<i>t</i>	<i>B</i>	95% CI		<i>p</i>	<i>R</i> ²
			Lower	Upper		
Age	-2.33	-0.13	-0.05	-0.01	.021	
Anxiety (PHQ-4)	-5.25	-0.28	-0.64	-0.29	<.001	
Social Support (MOS-SS)	2.86	0.16	0.07	0.39	.005	
Feeling Rested	1.66	0.09	-0.02	0.19	.099	
<i>Final Model</i>						0.15

Note: PHQ = Patient Health Questionnaire; MOS-SS = Medical Outcomes Study-Social Support. Additional factors included in the model, in order of elimination: Drug Abuse Screening Test (DAST), Short Inventory of Problems – 2nd Revision (SIP-2R), Medical Outcomes Study-Sleep Problem Scale (MOS-S), City Stress Inventory (CSI), Patient Health Questionnaire (PHQ-4) – Depression Scale.