NIH Public Access
Author Manuscript
J Happiness Stud. Author manuscript; available in PMC 2014 October 15.

Published in final edited form as:
J Happiness Stud. 2014 October ; 15(5): 1179–1196. doi:10.1007/s10902-013-9470-7.

Subjective Well-being of Older African Americans with DSM IV Psychiatric Disorders

Tina L. Peterson,
Department of Social Work, Western Kentucky University

Linda M. Chatters,
School of Public Health, School of Social Work, University of Michigan

Robert Joseph Taylor, and
School of Social Work, Institute for Social Research, University of Michigan

Ann W. Nguyen
School of Social Work, Department of Psychology, University of Michigan

Abstract

This study examined demographic and mental health correlates of subjective well-being (i.e., life satisfaction, happiness) using a national sample of older African Americans with psychiatric disorders. We used a subsample of 185 African Americans, 55 and older with at least one of thirteen lifetime psychiatric disorders from The National Survey of American Life: Coping with Stress in the 21st Century (NSAL). The findings indicated that among this population of older adults who had a lifetime psychiatric disorder, having a lifetime suicidal ideation was associated with life satisfaction but not happiness. Further, having a 12-month anxiety disorder or a lifetime suicidal ideation was not associated with happiness. Having a 12-month mood disorder, however, was negatively associated with an individual's level of happiness, as well as their life satisfaction. Additionally, there were two significant interactions. Among men, employment was positively associated with life satisfaction, and marriage was associated with higher levels of happiness among men but not women. The overall pattern of findings reflects both similarities and departures from prior research confirming that well-being evaluations are associated with multiple factors.

Keywords

Life Satisfaction; Happiness; Depression; Anxiety Disorder; Mood Disorder; Mental Health; Suicidal Ideation

Psychiatric disorders affect one in five adults who are 55 and older (Bartels 2003). Nationally, 7 million older adults have been diagnosed with a psychiatric disorder and by 2030, elderly individuals with psychiatric disorders are expected to increase to 15 million (Jeste et al. 1999). Psychiatric disorders in the elderly are associated with elevated risk of

Address Communications to: Tina Peterson, 270-745-5058 (office), 270-745-6841 (fax), tina.peterson@wku.edu.
Authors have no conflicts of interest.

NIH-PA Author Manuscript
NIH-PA Author Manuscript
NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

physical and cognitive decline, suicide, homelessness, higher medical expenses, declines in social networks, and institutional placement (CMHS 2004; USDHHS 1999).

Research on subjective well-being among older adults indicates that personal evaluations of life quality (i.e., overall satisfaction and happiness), provide important information that complements objective indicators of mental and physical health. We currently know little about how older persons with psychiatric disorders subjectively evaluate their lives and whether demographic factors are significant correlates of these ratings. Information about the levels and correlates of well-being is important for understanding how older persons with psychiatric disorders characterize their lives. This is especially true for subgroups such as African American elders for whom there is little research and concrete information and who are disproportionately vulnerable to psychiatric disorders (CMHS 2004), and at increased risk for diminished levels of subjective well-being.

Literature Review

Subjective well-being (SWB) is defined as a personal assessment of quality of life (i.e., happiness, life satisfaction) encompassing positive and negative features (Diener 1984; Diener 2000) and reflecting both objective (e.g., income) and subjective indicators. Among older adults, SWB is linked to several factors. Pinquart and Sörensen's (2000) meta-analysis of correlates of SWB among older adults found that persons with higher socioeconomic status, greater involvement with social networks, and higher competency reported better life satisfaction, higher self-esteem, and greater happiness. Research on the demographic correlates of SWB within the general population indicates that income is the strongest predictor of subjective well-being, while findings for age, gender, education, and marital status are less consistent (Diener 1984; Ellison 1991; Haring-Hidore, Stock, Okun, and Witter 1985; Pinquart and Sörensen 2001).

SWB research among African Americans is largely based on so-called 'bottom-up' or resource theories of well-being whereby subjective evaluations of life are based in objective life circumstances such as income and educational levels (Andrews 1982; Chatters 1988). In essence, SWB simply reflects experienced advantages (or disadvantages) in objective life circumstances (Lyubomirsky 2001). Elderly Black adults are at greater risk for diminished well-being because they are disproportionately represented among low resource and status groups and are exposed to disadvantaged life circumstances (Herzog, Rodgers, and Woodworth 1982). Accordingly, African American older adults who have generally lower position on social status factors (e.g., income and education) should have lower SWB ratings. However, African American elderly often have comparable or higher levels of SWB than both younger African Americans, as well as their racial age counterparts (i.e., white elderly).

Among African American elders, demographic factors often bear different associations with SWB than is found in the general elderly population. African Americans elders who are older, married, and in better health report higher well-being evaluations (Chatters 1988; Levin, Chatters, and Taylor 1995; Lincoln, Taylor, Chae, and Chatters 2010; Rao and Rao 1983; Tran, Wright, and Chatters 1991; Wilkerson 2004). Findings for socioeconomic status

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

are mixed—education is positively associated with well-being (Jackson, Bacon, and Peterson 1977), while income is negatively or unrelated to SWB (Chatters 1988; Jackson et al. 1977). Perhaps most interesting is that advanced age (oldest old) is associated with higher SWB within this group (Chatters 1988; Tran et al. 1991). These findings for African Americans indicate that social status factors often have inconsistent or no relationship with SWB ratings (Andrews 1982).

Subjective Well-being in Older Adults with Psychiatric Disorders

A separate body of research on SWB among persons with psychiatric disorders (Hays, Wells, Sherbourne, and Roger 1995; Katschnig 2006; Lehman, Ward, and Linn 1982; Lehman 1983; Lehman 1988; Lehman, Rachuba, Postrado 1995; Maddux, Delrahim, and Rapaport 2003; Rosenfield 1992) indicates some similarities with findings for the general population. Lehman's (1983) study of subjective well-being in adults with chronic mental illness found that the three strongest predictors were marital status, education, and drug abuse (Lehman 1983). Findings for racial and gender differences in SWB for persons with psychiatric disorders are mixed. Lehman et al. (1995) found that men with psychiatric disorders report higher life satisfaction compared to women (although a gender by age interaction indicated that older women reported better life satisfaction than younger women) (Lehman et al. 1995). Racial minority respondents reported greater life satisfaction and satisfaction with family and social relationships, while experiencing more financial difficulty and higher unemployment. In contrast, Hitchcock et al.'s study (2004) among clinically depressed adults found no differences in QOL for age or race groups, but women and married persons reported better life quality than their counterparts.

Physical functioning and depression also emerge as correlates of SWB ratings among persons with chronic mental illness. Wells and colleagues (1989) examined physical functioning and well-being in 11,242 patients who met criteria for depressive disorder or depressive symptoms. They found that patients with depressive symptoms functioned similarly to those with heart conditions; level of functioning varied depending on whether the patient received treatment from a general medical provider or a mental health provider. Hays and colleagues' (1995) longitudinal study found that patients with depression experienced long term functional impairment and declines in well-being at baseline and at two year follow-up. Furthermore, Hitchcock et al. (2004) report that depression severity has pervasive negative effects on quality of life, physical and mental functioning, and disability among elderly primary care patients with clinically severe depression.

In sum, available research indicates mixed findings for the demographic correlates of SWB overall and specifically as they relate to older African Americans. Contrary to resource models of SWB, African American elders overall and African Americans with chronic mental illness often report high levels of SWB despite poor objective conditions. Studies of SWB among persons with psychiatric disorders indicate that functional impairments/ physical mobility and specific mental disorders (e.g., depression) emerge as important correlates, although specific information on African Americans is limited. Consequently, reliable information on the correlates of SWB among elderly African Americans with psychiatric disorders is lacking. We know little about how they subjectively evaluate their

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

lives and whether demographic and other factors are significant correlates. Given suggestive evidence that demographic factors operate differently as SWB correlates for older African Americans and African Americans with mental illness, additional exploration of these issues is important for understanding the meaning of SWB for elderly African Americans with mental disorders.

The present study addresses gaps in the literature and builds upon previous work in several ways. First, the study uses single item indicators of SWB (i.e., ratings of life satisfaction and happiness) which have strong face validity and wide use in SWB research (Diener 1984; Tran et al. 1991; Utsey, Payne, Jackson, and Jones 2002). Examining both happiness and life satisfaction will allow us to determine whether the set of correlates are the same for these different life assessments. Second, we examine a full range of demographic factors (e.g., age, gender, education, region) as correlates of SWB within a national sample of community-dwelling older African Americans who report having at least one lifetime psychiatric disorder. Third, the impact of physical mobility and specific mental disorders (anxiety disorders, mood disorders and suicide ideation) on assessments of SWB is examined, controlling for demographic factors. This provides the opportunity to determine whether physical mobility and specific forms of mental disorder are associated with SWB ratings. Finally, because the analyses use a nationally representative sample, the findings demonstrate the independent effects of demographic, mental disorder and mobility factors on SWB ratings and are generalizable to the broader community-residing population of older African Americans with psychiatric disorders.

As noted, there is sparse consistent evidence regarding the relationships between demographic and other factors as correlates of SWB for older African Americans and older adults with mental disorders. Nonetheless, based on available information, we posit several predictions for these associations. First, in line with prior research on both groups, we expect that advanced age, being married, better health and physical functioning, and possessing higher levels of education will be associated with higher levels of well-being. Expectations for gender differences are less clear, but we anticipate that men will report higher well-being than women as a reflection of women's overall lower social status in society. Being employed and a resident of the South will be associated with higher SWB; no specific relationships are posited for income as a correlate of well-being. Finally, we anticipate that mental disorders reflect particular vulnerabilities for well-being. As found in previous studies examining depression and depressive symptoms and SWB, we expect that reports of mood disorders, anxiety disorders, and suicide ideation will be associated with lower well-being.

METHODS

Sample

The National Survey of American Life: Coping with Stress in the 21st Century (NSAL) was collected by the Program for Research on Black Americans at the University of Michigan's Institute for Social Research. The African American sample is the core sample of the NSAL. The core sample consists of 64 primary sampling units (PSUs). Fifty-six of these primary areas overlap substantially with existing Survey Research Center National Sample primary

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

areas. The remaining eight primary areas were chosen from the South in order for the sample to represent African Americans in the proportion in which they are distributed nationally. The African American sample is a national representative sample of households located in the 48 coterminous states with at least one Black adult 18 years or over who did not identify ancestral ties in the Caribbean.

The data collection was conducted from February 2001 to June 2003. A total of 6,082 interviews were conducted with persons aged 18 or older, including 3,570 African Americans, 891 non-Hispanic whites, and 1,621 Blacks of Caribbean descent. Fourteen percent of the interviews were completed over the phone and 86% were administered face-to-face in respondents' homes. Respondents were compensated for their time. There are 837 African Americans aged 55 years or older in this sample. The analytic sample for this analysis consists of 185 African Americans who are aged 55 and older and who have one of thirteen lifetime psychiatric disorders.

The thirteen lifetime psychiatric disorders include anxiety disorders (panic disorder, agoraphobia, social phobia, generalized anxiety disorder, obsessive compulsive disorder, posttraumatic stress disorder), mood disorders (major depressive disorder, dysthymia, bipolar I & II disorders), and substance disorders (alcohol abuse, alcohol dependence, drug abuse, drug dependence). The psychiatric disorders were assessed using The DSM-IV World Psychiatric Health Composite International Diagnostic Interview (WMH-CIDI), a fully structured diagnostic interview. The psychiatric disorders sections used for NSAL are slightly modified versions of those developed for the World Psychiatric Health project initiated in 2000 (WHO 2004) and the instrument used in the NCS-R (Kessler and Ustun 2004) Obsessive compulsive disorder was assessed using the CIDI-Short Forms (Kessler, Andrews, Mroczek, Ustun, and Wittchen 1998).

The overall response rate was 72.3%. This is excellent given the difficulty and expense to conduct survey fieldwork and data collection among African Americans (especially lower income African Americans) who are more likely to reside in major urban areas. Respondents were compensated for their time. Final response rates for the NSAL two-phase sample designs were computed using the American Association of Public Opinion Research (AAPOR) guidelines (for Response Rate 3 samples) (AAPOR 2006) (see Jackson et al. 2004 for a more detailed discussion of the NSAL sample). The NSAL data collection was approved by the University of Michigan Institutional Review Board.

Measures

Dependent Variables—Two dependent variables are examined in this analysis. *Life satisfaction* was measured by the question: "In general how satisfied are you with your life as a whole these days? Would you say very satisfied (3), somewhat satisfied (2), somewhat dissatisfied (1), or very dissatisfied?". Because of the low number of respondents in the very dissatisfied group, they were combined with the somewhat dissatisfied group. Overall *happiness* was assessed by the following question: "Taking all things together, how would you say things are these days? Would you say you are very happy (3), pretty happy (2), or not too happy these days (1)?" Two respondents volunteered that they were "not happy at all" and they were combined with the "not too happy group.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Independent Variables—Several demographic, mobility and mental health factors were included as independent variables (i.e., age, gender, marital status, region, education, family income, and physical mobility). Missing data for family income and education were imputed using an iterative regression-based multiple imputation approach incorporating information about age, sex, region, race, employment status, marital status, home ownership, and nativity of household residents. Missing data for family income were imputed for 773 cases (12.7% of the total NSAL sample of 6,082). Missing data for education were imputed for 74 cases of the total NSAL sample. Imputations were done using Answer Tree in SPSS, which uses a hotdeck-type of imputation (Andridge and Little, 2010). Income is coded in dollars and for the multivariate analysis only has been divided by 5000 in order to increase effect sizes and provide a better understanding of the net impact of income on the dependent variables.

Physical mobility was measured using a modified version of the World Health Organization Disability Assessment Schedule (WHO-DASII). Respondents were asked about their difficulties with mobility, such as standing for long periods, moving around inside your home, or walking for a long distance (half a mile) in the past 30 days. Items assessed the number of days of impairment weighted by self-assessed difficulty in performing these activities. This measure was transformed into a scale ranging from 100=completely impaired to 0=no impairment.

Two measures of 12-month psychiatric disorders are included as independent variables. They are whether the respondent has had any 12-month anxiety disorder, or whether they had a 12-month mood disorder. Suicidal ideation is also included in the analysis. Suicidality is assessed in its own section of the World Mental Health Composite International Diagnostic Interview (WMH-CIDI) by a series of questions about lifetime suicidal behaviors (Joe, Baser, Breeden, Neighbors, and Jackson 2006; Kessler et al. 2005). Suicidal ideation (lifetime) is measured by the question “Have you ever seriously thought about committing suicide?”

Analysis Strategy: Analytic tests (proportional odds assumption) indicated that Ordered Logit regression (Borooah 2002) could be appropriately used with life satisfaction. In particular, the Chi-Square test for the Proportional Odds Assumption for the Ordered Logit regression model was 3.42 (df=11 p=.98) which indicated that the ordered logit coefficients were equal across the levels of life satisfaction and thus it is appropriate to use Ordered Logit regression. For happiness, however, the Chi-Square test for the Proportional Odds Assumption for the Ordered Logit regression model was 31.49 (df=11 p=.0009) which indicated that the ordered logit coefficients were unequal across the levels of happiness and thus the less restrictive multinomial logistic regression was more appropriate. The format and interpretation of multinomial logistic regression is similar to dummy variable logistic regression and involves contrasts between a comparison and an excluded category. However, comparisons between selected categories and the excluded category involve both the dependent variable and selected independent variables (as opposed to only selected independent variables in standard logistic regression).

The analyses were conducted using SAS 9.13. All of the analyses utilize analytic weights. Additionally, standard error estimates are corrected for unequal probabilities of selection,

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

nonresponse, poststratification, and the sample's complex design (i.e., clustering and stratification) to obtain results that are generalizable to the older African American population who have experienced a lifetime psychiatric disorder.

Results

Characteristics of the Sample

This older African American sub-sample consists of 185 persons 55 and over who reported at least one psychiatric disorder. They range in age from 55 to 93 years (M = 63.82 and *SD* = 5.93) (Table 1). Slightly over half (52.1%) of the respondents are women, one out of three are married (34.1%) and almost half (47.22%) reside in the South. With regards to socioeconomic status, the average family income is $27,023 (*SD* = $25,319), and the average years of education is 11.46 (*SD* = 2.74). About two thirds (66.02%) of respondents are not employed. Ten percent (9.88) of respondents have mobility difficulties. Close to a third of respondents had one 12-month anxiety disorder (30.65%), 12.46% had one 12-month mood disorder and 15.29% reported a lifetime suicidal ideation. With regards to co-morbid conditions, 6.3% of this sample had a 12-month mood and 12-month anxiety disorder, 3.4% had a 12-month mood disorder and lifetime suicidal ideation and 6.73% had a 12-month anxiety disorder and lifetime suicidal ideation.

Multivariate Analysis

Thirty-two percent (31.9%) of respondents reported that they are very satisfied with their lives, 48.8% reported that they are somewhat satisfied and 19.3% reported that they were dissatisfied. The results of the ordered regression for life satisfaction are presented in Table 2. In the first model, in line with predictions for age, older respondents reported higher levels of life satisfaction than their younger counterparts. In contrast to prior research and our expectations, education was negatively associated with life satisfaction. Preliminary analysis indicated the presence of potential interactions between gender and marital status, as well as gender and employment status. These interactions are included in model 2, in addition to 12-month anxiety and mood disorders and lifetime suicide ideation. In model 2 neither age nor education remain significant Having a 12-month mood disorder (OR = 0.23, 95% CI = 0.11, 0.49) and lifetime suicidal ideation (OR = 0.34, 95% CI = 0.14, 0.80) are each significant in this model; as anticipated from prior research findings, each is associated with lower levels of life satisfaction. The interaction between gender and employment status is also significant indicating that for men being employed is positively associated with life satisfaction, whereas for women being employed is associated with lower levels of life satisfaction.

Turning to happiness, thirty percent (30.1%) of respondents indicated that they were very happy, 51.5% reported that they were pretty happy and 18.3% reported that they were not too happy. Table 3 presents the results of the multinomial regression of happiness. Models 1 and 2 compare the categories Pretty Happy with Not Too Happy and Models 3 and 4 compare the categories Very Happy with Not Too Happy. Preliminary analysis indicated the presence of a potential interaction between gender and marital status on happiness. This interaction is included in the fully adjusted models (Models 2 and 4). In Model 1, and in

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

keeping with expectations, gender (male) and older age are significantly associated with higher levels of happiness (i.e., being 'pretty happy'). However, after including the disorder variables and the interaction between gender and marital status in the regression (Model 2), neither gender nor age remains significant. Mood disorder is significant in Model 2 and negatively associated with being 'very happy' as opposed to 'not too happy' (RRR = 0.17, 95% CI = 0.04, 0.69). The interaction between gender and marital status is also significant. Comparing 'Very Happy' and 'Not Too Happy' (Model 3), gender, age, and education are significantly associated with happiness. Older age and male gender is associated with reports of being 'very happy', while higher education is associated with being 'not too happy'. Age (RRR = 1.13, 95% CI = 1.01, 1.26) and education (RRR = 0.78, 95% CI = 0.68, 0.90) remain significant when the disorder and gender and marital status interaction variables are included (Model 4). Age was positively associated with being 'very happy' whereas education was negatively associated with being 'very happy.' Having a 12-month mood disorder was negatively associated with being 'very happy' (RRR = 0.02, 95% CI = 0.00, 0.35); anxiety disorders and suicide ideation are unrelated to happiness. There was a significant interaction between gender and marital status. For men, marriage is positively associated with happiness whereas for women marriage is negatively associated with happiness. Finally, contrary to expectations from prior research, income, and physical mobility are unrelated to assessments of both life satisfaction and happiness.

For the analysis of both dependent variables, we computed the Variance Inflation Factor which is a widely used measure of the degree of multicollinearity between the independent variables. The largest Variance Inflation Factor was 3.6 which is lower that the threshold of 10 or the more stringent threshold of 4 which many researchers regard as a sign of severe or serious multicollinearity (see O'Brien, 2007). Also for both dependent variables we conducted the same analysis without using any imputed variables. The tables for this analysis using non-imputed data are included in the appendix.

Discussion

A combination of demographic factors and psychiatric disorders are associated with SWB among this sample of older African Americans with DSM IV psychiatric disorders. First, of overall significance, this analysis demonstrated that having a lifetime DSM IV psychiatric disorder does not necessarily mean that older African Americans are doomed to a life of dissatisfaction and unhappiness. Almost one-third of respondents in this sample reported that they were very satisfied with their lives while an equal portion indicated that they were very happy overall. Second, demographic factors were important in distinguishing levels of well-being. In particular, age, education, and gender emerged as the most significant demographic correlates of well-being. Advanced age was positively associated with higher levels of general happiness, a finding noted in prior work on samples of older Blacks (Chatters 1988). Although an initial gender difference favoring men was found for happiness only (Lehman et al. 1995), this was canceled when controlling for psychiatric disorders. This suggests that in uncontrolled analyses, women's lower levels of happiness may be attributable to their generally higher rates of mood disorders. However, controlling for mood disorders, elderly women are no different from elderly men in their reports of happiness. With respect to education, the previously significant negative association with life

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

satisfaction was eliminated when psychiatric disorders were included. In contrast, education was associated with lower levels of happiness even with controls of psychiatric disorders. There were two significant interactions, one between gender and employment status on life satisfaction and the other between gender and marital status on happiness. Finally, 12-month mood disorders, and lifetime suicidal ideation were associated with lower life satisfaction. In contrast, lower rates of general happiness were significantly associated with the presence of a 12-month mood disorder, only.

The overall pattern of findings reflects both similarities and departures from prior research confirming that well-being evaluations are influenced by multiple factors (Chatters 1988; Coke and Twaite 1995; Diener 1984; Lyubomirsky 2001; Pinquart and Sörensen 2000; Pinquart and Sörensen 2001) that often have differing associations. For example, Diener's review (1984) notes mixed findings regarding the associations between age, gender, and education and life satisfaction and general happiness (Diener 1984). In the present study, age was positively related to happiness, a finding confirmed in other research on happiness ratings (Chatters 1988) but at odds with other research (Yang 2008). This finding is also consistent with research that shows that older African Americans are less likely to have a major depressive disorder (Aranda et al. 2012; Woodward et al. 2013), less likely to have a psychiatric disorder (Ford et al. 2007) and less likely to engage in suicidal behaviors (Joe et al. 2006). Similarly, the present finding of an inverse association between education and happiness and life satisfaction ratings parallels prior research in which elders with less than a high school education report better life satisfaction (Lehman 1983; Wilkerson 2004). However, the negative education effect for life satisfaction was not significant when controlling for psychiatric disorders, while it remained significant for happiness ratings.

A significant gender and marital status interaction indicated that married men were more likely than married women to report higher levels of happiness. This is consistent with research on non-Hispanic whites and African Americans which finds that women have lower levels of marital satisfaction than men (Bryant et al. 2008). This is also consistent with research which notes that benefits of marriage are frequently stronger for men than women (Berkman & Breslow 1983).

The interaction for gender and employment status indicated that employed men have higher levels of life satisfaction. This contrasts with the situation for women in which employed women have lower levels of life satisfaction than unemployed women. By way of explanation, paid employment is thought to have a more prominent position in the life experiences and gender expectations for men, particularly in their role as family providers (Taylor et al. 1988). Being unemployed thus represents a loss of this social role, as well the associated losses of income and social contacts at the job, and a diminished sense of self esteem and competence. These roles, and their associated benefits, may be particularly important to older African American men who have had a history of psychiatric disorders.

For older employed women, working in the paid labor force is less clearly tied to gender expectations and being employed may represent more of a necessary burden. Further, having a psychiatric disorder is associated with working in lower pay, lower prestige jobs and more financial instability (Kessler et al. 2008). This, coupled with the fact that older African

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

American women are more likely to work in low pay, low status service jobs (Gibson 1993), suggests that older African American women with a history of psychiatric disorders are working more out of economic necessity than choice. Accordingly, the gender and employment status interaction effect (higher satisfaction for employed men and lower satisfaction for employed women) may be in part a reflection of undesirable features of the workplace (e.g., low status and compensation) and possible role overload and conflicts experienced by employed women.

Prior theoretical and empirical work on the nature of happiness and life satisfaction are useful in interpreting these findings. Theories of SWB suggest it is comprised of three independent components—life satisfaction and positive and negative affect (Andrews and Withey 1976; Lucas, Diener, and Suh 1996). Accordingly, happiness and life satisfaction assess different aspects of well-being evaluations—happiness reflects overall positive affect, whereas life satisfaction represents more cognitive evaluative aspects of life (Diener, Lucas, and Oishi 2002). The differential associations of demographic factors and psychiatric disorders on happiness and life satisfaction support these assumptions regarding the basic character of these assessments. The significant independent effects of lifetime suicide ideation and 12-month mood disorders for life satisfaction are particularly noteworthy. Their negative effects on life satisfaction (cognitive evaluations) are distinctive and independent of one another, as well as mobility factors and demographic factors. Happiness ratings, on the other hand, were uniquely associated with mood disorders only, indicating that conditions associated with mood (e.g., major depressive disorder) may be particularly important in depressing happiness ratings.

Our findings show that having a lifetime suicidal ideation is significantly associated with life satisfaction but not happiness. Consequently, having a 12-month anxiety disorder or previous suicidal ideation does not mean that a person will be unhappy, even among this population of older adults with diagnosed psychiatric disorders. Having a 12-month mood disorder, however, is negatively associated with both an individual’s level of happiness as well as their life satisfaction.

What is not evident from our findings are the causal relationships between mood disorders and happiness and life satisfaction. That is to say, do attributions of happiness and life satisfaction lead to the development of mood disorders or are happiness and life satisfaction ratings merely manifestations of having a mood disorder. On one hand, the symptoms of major depressive disorder (the most prevalent type of mood disorders) include depressed mood, loss of interest or pleasure, difficulty concentrating, fatigue or loss of energy, and feelings of worthlessness. Given these symptoms, it is not unreasonable that a person might evaluate themselves as being unhappy and less satisfied with their life. Furthermore, although one would expect that being clinically depressed would cause an individual to have lower levels of subjective well-being, it is important to note that not all individuals with low levels of subjective well-being will develop a mood disorder. For example, an older person with a history of a psychiatric disorder may, upon introspection and reflection on their past (e.g., life review), evaluate themselves as unhappy and dissatisfied with their life, but not experience a mood disorder. Alternatively, the life review process itself, may actually lead to a subsequent major depressive episode. In this case, reported lower subjective well-being

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

(dissatisfaction and unhappiness) may be a consequence of the mental disorder. These are several possible scenarios for how 12 month mood disorders and SWB might be related to one another. Unfortunately, as with all cross-sectional studies, the data do not allow a determination of the causal relationships and sequencing of mood disorders and subjective well-being.

In summary, our research confirms that examining the demographic and mental disorder correlates of SWB can be complex, particularly for groups such as older African Americans with psychiatric disorders. Demographic factors and psychiatric disorders have tangible impacts on the SWB of African American elders that require professionals to consider the influence of age and education, as well as psychiatric conditions for understanding life quality within this group. Further, because specific groups may be a risk for lower SWB, comprehensive health screenings in primary care settings frequented by older African Americans with psychiatric disorders is a priority. This is particularly critical in relation to depression which is frequently undetected and/or undertreated in these settings. This study demonstrated the importance of mood disorders for both happiness and life satisfaction ratings for elderly who had experienced a lifetime psychiatric disorder. Finally, demographic factors and psychiatric disorders should also be considered in designing intervention programs and used to develop targeted supportive services for African American elders with psychiatric disorders.

Several limitations to this study should be noted. First, the WHO-CIDI questions used to assess alcohol and drug dependence were modified such that respondents who did not report lifetime abuse symptoms were not administered questions assessing dependence. Thus, individuals who have a history of dependence without abuse were excluded, resulting in the overall rates of substance dependence to be underestimated (Kessler and Merikangas 2007). Therefore, similar to other studies involving the WHO-CIDI with this skip pattern, the results of this study should be interpreted in the context of this diagnostic issue. Second, because segments of the population such as homeless and institutionalized individuals were not represented, our findings are not generalizable to these subgroups. Lastly, as previously noted, with any cross-sectional analyses, causal inferences are problematic and longitudinal data are preferred. Despite these limitations, this study is one of a handful of emerging investigations of psychiatric disorders among older African Americans (Aranda et al. 2012; Chatters et al. 2008; Ford et al. 2007; Jimenez, Alegria, Chen, Chan, and Laderman 2010; Lincoln, Taylor, Bullard, Chatters, Himle, Woodward, and Jackson, 2010; Woodward et al. 2012; Woodward et al. 2013).

In conclusion, although gerontology researchers have described “the upcoming crisis in geriatric mental health” (Bartels 2003; Jeste et al. 1999), discussion regarding the implications for minority elders has been limited. Therefore, basic research using larger and more diverse samples is needed to improve the state of knowledge regarding mental health concerns and their correlates among diverse groups of elders. This should include studies of the impact of demographic and psychiatric disorders on the well-being of older African Americans. Persons with psychiatric disorders from minority groups are understudied in the aging literature. This research contributes to filling this gap. Helping professionals can consider age, education, anxiety disorders, mood disorders, and suicidal ideation in

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

evaluating subjective well-being in this group. Practitioners and researchers must continue to explore, prevent, and intervene in complex issues that can impact subjective well-being in older African Americans with psychiatric disorders.

Acknowledgments

The data collection on which this study is based was supported by the National Institute of Health (NIMH; U01-MH57716) with supplemental support from the Office of Behavioral and Social Science Research at the National Institutes of Health (NIH) and the University of Michigan. The preparation of this manuscript was supported by a grant from the National Institute on Aging for Dr. Taylor (P30-AG15281).

References

American Association for Public Opinion Research. Standard definitions: Final dispositions of case codes and outcome rates for surveys. 4. Lenexa, KS: AAPOR; 2006.

Andrews, FM. Subjective social indicators, objective social indicators, and social accounting systems. In: Juster, FT.; Land, KC., editors. Social indicators and social accounting systems. New York: Academic Press; 1982. p. 377-419.

Andrews, FM.; Withey, SB. Social indicators of well-being. New York: Plenum Press; 1976.

Andridge RR, Little RJA. A review of hot deck imputation for survey non-response. International Statistical Review. 2010; 78 (1):4064.

Aranda MP, Chae DH, Lincoln KD, Taylor RJ, Woodward AT, Chatters LM, et al. Lifetime and twelve month prevalence of DSM-IV Major Depressive Disorder among older African Americans, Black Caribbeans, and non-Hispanic Whites. International Journal of Geriatric Psychiatry. 2012; 27:940–947. [PubMed: 22038674]

Bartels SJ. Improving the system of care for older adults with mental illness in the United States: Findings and recommendations for the President's New Freedom Commission on Mental Health. American Journal of Geriatric Psychiatry. 2003; 11(5):486–497. [PubMed: 14506082]

Berkman, LF.; Breslow, L. Health and ways of living: The Alameda county study. New York: Oxford University Press; 1983.

Borooah, VK. Sage University paper series on quantitative applications in the social sciences, 07–138. Thousand Oaks, CA: Sage; 2002. Logit and probit: Ordered and multinomial models.

Bryant C, Taylor RJ, Lincoln KD, Chatters LM, Jackson JS. Marital satisfaction among African Americans and Caribbean Blacks, Family Relations. 2008; 57:238–252.

Center for Mental Health Services. Community integration for older adults with mental illnesses: Overcoming barriers and seizing opportunities. Rockville, MD: 2004.

Chatters LM. Subjective well-being evaluations among older black Americans. Psychology and Aging. 1988; 3(2):184–190. [PubMed: 3268258]

Chatters LM, Bullard KM, Taylor RJ, Woodward AT, Neighbors HW, Jackson JS. Religious participation and DSM-IV disorders among older African Americans: Findings from the National Survey of American Life (NSAL). American Journal Geriatric of Psychiatry. 2008; 16:957–965.

Coke, MM.; Twaite, JA. The black elderly: Satisfaction and quality of later life. Binghamton, NY: Haworth Press; 1995.

Diener E. Subjective well-being. Psychological Bulletin. 1984; 95:542–575. [PubMed: 6399758]

Diener E. Subjective well-being: The science of happiness and a proposal for a national index. American Psychologist. 2000; 55(1):34–43. [PubMed: 11392863]

Diener, E.; Lucas, RE.; Oishi, S. Subjective well-being: The science of happiness and life satisfaction. In: Snyder, CR.; Lopez, SJ., editors. Handbook of positive psychology. Oxford and New York: Oxford University Press; 2002.

Ellison CG. Religious involvement and subjective well-being. Journal of Health and Social Behavior. 1991; 32(March):80–99. [PubMed: 2007763]

Ford BC, Bullard KM, Taylor RJ, Toler AK, Neighbors HW, Jackson JS. Lifetime and twelve month prevalence of Diagnostic and Statistical Manual of Mental Disorders fourth edition disorders

NIH-PA Author Manuscript NIH-PA Author Manuscript NIH-PA Author Manuscript

among older African Americans: Findings from the National Survey of American Life (NSAL). American Journal of Geriatric Psychiatry. 2007; 15:652–659. [PubMed: 17504908]

Gibson, R. The Black American retirement experience. In: Jackson, JS.; Chatters, LM.; Taylor, RJ., editors. Aging in Black America. Newberry Park, CA: Sage; 1993. p. 277-297.

Haring-Hidore M, Stock W, Okun MA, Witter RA. Marital status and subjective well-being: A research synthesis. Journal of Marriage and Family. 1985; 47(4):947–953.

Hays RD, Wells KB, Sherbourne CD, Roger W. Functioning and well-being outcomes of patients with depression compared with chronic general medical illnesses. Archives of General Psychiatry. 1995; 52:11–19. [PubMed: 7811158]

Herzog, AR.; Rodgers, WL.; Woodworth, J. Subjective well-being among different age groups. Ann Arbor: University of Michigan, Institute for Social Research; 1982.

Hitchcock PN, Williams JW, Unützer J, Worchel J, Lee S, Cornell J, et al. Depression and comorbid illness in elderly primary care patients: Impact on multiple domains of health status and well-being. Annals of Family Medicine. 2004; 2(6):555–562. [PubMed: 15576541]

Jackson JS, Bacon JD, Peterson J. Life satisfaction among Black urban elderly. Aging and Human Development. 1977; 8:169–180. [PubMed: 892917]

Jackson JS, Torres M, Caldwell CH, Neighbors HW, Nesse RN, Taylor RJ, et al. The National Survey of American Life: A study of racial, ethnic and cultural influences on mental disorders and mental health. International Journal of Methods in Psychiatric Research. 2004; 13:196–207. [PubMed: 15719528]

Jeste DG, Alexopoulos S, Bartels J, Cummings J, Gallo G, Gottlieb M, et al. Consensus statement on the upcoming crisis in geriatric mental health. Archives of General Psychiatry. 1999; 56:848–853. [PubMed: 12884891]

Jimenez DE, Alegria M, Chen C, Chan D, Laderman M. Prevalence of psychiatric illnesses in older ethnic minority adults. Journal of the American Geriatrics Society. 2010; 58(2):256–264. [PubMed: 20374401]

Joe S, Baser RE, Breeden G, Neighbors HW, Jackson JS. Prevalence of and risk factors for lifetime suicide attempts among Blacks in the United States. Journal of the American Medical Association. 2006; 296 (17):2112–2123. [PubMed: 17077376]

Katschnig, H. How useful is the concept of quality of life in psychiatry?. In: Katschnig, H.; Freeman, H.; Sartorius, N., editors. Quality of life in mental disorders. 2. England: John Wiley & Sons; 2006. p. 3-17.

Kessler RC, Andrews G, Mroczek D, Ustun TB, Wittchen HU. The World Health Organization Composite International Diagnostic Interview Short Form (CIDI-SF). International Journal of Methods in Psychiatric Research. 1998; 7(4):171–185.

Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. Archives of Geneneral Psychiatry. 2005; 62(6):593–602.

Kessler RC, Heeringa S, Lakoma MD, Petukhova M, Rupp AE, Schoenbaum M, Wang PS, Zaslavsky AM. Individual and societal effects of mental disorders on earnings in the United States: Results from the National Comorbidity Survey Replication. American Journal of Psychiatry. 2008; 165:703–711. [PubMed: 18463104]

Kessler RC, Merikangas KR. Drug use disorders in the National Comorbidity Survey: Have we come a long way? [A response letter to Cottler]. Archives of General Psychiatry. 2007; 64:381–382.

Kessler RC, Ustun TB. The World Mental Health (WMH) survey initiative version of the World Health Organization (WHO) Composite International Diagnostic Interview (CIDI). International Journal of Methods in Psychiatric Research. 2004; 13:93–121. [PubMed: 15297906]

Lehman AF. The well-being of chronic mental patients: Assessing their quality of life. Archives of General Psychiatry. 1983; 40:369–373. [PubMed: 6838316]

Lehman AF. A quality of life interview for the chronically mentally ill. Evaluation and Program Planning. 1988; 11:51–62.

Lehman AF, Rachuba LT, Postrado LT. Demographic influences on quality of life among persons with chronic mental illnesses. Evaluation and Program Planning. 1995; 18(2):155–164.

NIH-PA Author Manuscript NIH-PA Author Manuscript NIH-PA Author Manuscript

Lehman AF, Ward NC, Linn LS. Chronic mental patients: The quality of life issue. American Journal of Psychiatry. 1982; 139:1271–1276. [PubMed: 7124978]

Levin JS, Chatters LM, Taylor RJ. Religious effects on health and life satisfaction among Black Americans. Journal of Gerontology: Social Sciences. 1995; 50B:S154–S163.

Lincoln KD, Taylor RJ, Bullard KM, Chatters LM, Himle JA, Woodward AT, Jackson JS. Emotional support, negative Interaction and DSM IV lifetime disorders among older African Americans: Findings from the National Survey of American Life (NSAL). International Journal of Geriatric Psychiatry. 2010; 25:612–621. [PubMed: 20157904]

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 Practices in Mental Health. 2010; 6:103–126. [PubMed: 21765812]

Lucas RE, Diener E, Suh E. Discriminant validity of well-being measures. Journal of Personality and Social Psychology. 1996; 71(3):616–628. [PubMed: 8831165]

Lyubomirsky S. Why are some people happier than others? The role of cognitive and motivational processes in well-being. American Psychologist. 2001; 56(3):239–249. [PubMed: 11315250]

Maddux RE, Delrahim KK, Rapaport MH. Quality of life in geriatric patients with mood and anxiety disorders. CNS Spectrums. 2003; 8(2, Supplement 3):35–47. [PubMed: 14978462]

O'Brien RM. A caution regarding rules of thumb for variance inflation factors. Quality & Quantity. 2007; 41:673–690.

Pinquart M, Sörensen S. Influences of socioeconomic status, social network, and competence on subjective wellbeing in later life: A meta-analysis. Psychology and Aging. 2000; 15(2):187–224. [PubMed: 10879576]

Pinquart M, Sörensen S. Gender differences in self-concept and psychological well-being in old age: A meta-analysis. The Journals of Gerontology: Series B. 2001; 56(4):P195–P213.

Rao VVP, Rao VN. Determinants of life satisfaction among Black elderly. Activities, Adaptation, and Aging. 1983; 3(2):35–48.

Rosenfield S. Factors contributing to the subjective quality of life of the chronic mentally ill. Journal of Health and Social Behavior. 1992; 33:299–315. [PubMed: 1464716]

Taylor RJ, Leashore BR, Toliver S. An assessment of the provider role as perceived by Black males. Family Relations. 1988; 37:426–431.

Tran TV, Wright R Jr, Chatters LM. Health, stress, psychological resources, and subjective well-being among older blacks. Psychology of Aging. 1991; 6(1):100–8.

United States Department of Health and Human Services. Mental health: A report to the surgeon general. Rockville, MD: Author; 1999.

Utsey SO, Payne YA, Jackson YA, Jones AM. Race related stress, quality of life indicators, and life satisfaction among elderly African Americans. Cultural Diversity and Ethnic Minority Psychology. 2002; 8(3):224–233. [PubMed: 12143100]

Wells KB, Stewart A, Hays RD, Burnam A, Rogers W, Daniels M, et al. The functioning and well-being of depressed patients: Results from the Medical Outcomes Study. Journal of the American Medical Association. 1989; 262(7):914–919. [PubMed: 2754791]

Wilkerson, PA. Predictors of life satisfaction in elderly African Americans. Jackson State University; Jackson, Mississippi: 2004. Unpublished manuscript

Woodward AT, Taylor RJ, Bullard KM, Aranda MP, Lincoln KD, Chatters LM. Prevalence of lifetime DSM-IV affective disorders among older African Americans, Black Caribbeans, Latinos, Asians and non-Hispanic Whites. International Journal of Geriatric Psychiatry. 2012; 27:816–827. [PubMed: 21987438]

Woodward AT, Taylor RJ, Abelson JM, Matusko N. Major depressive disorder among older African Americans, Caribbean Blacks, and non-Hispanic Whites: Secondary analysis of the National Survey of American Life. Depression and Anxiety. 2013; 30(6):589–597. [PubMed: 23319438]

World Health Organization. The prevalence, severity, and unmet need for treatment of mental disorders in the World Health Organization World Mental Health Surveys. Journal of the American Medical Association. 2004; 291:2581–2590. [PubMed: 15173149]

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Yang Y. Social inequalities in happiness in the United States, 1972 to 2004: An age-period-cohort analysis. American Sociological Review. 2008; 73(2):204–226.

NIH-PA Author Manuscript NIH-PA Author Manuscript NIH-PA Author Manuscript

J Happiness Stud. Author manuscript; available in PMC 2014 October 15.

Table 1

Demographic Characteristics of the Sample and Distribution of Study Variables

	%	N	Mean	S.D.	Range
Gender					
Male	47.90	75			
Female	52.10	110			
Age			63.82	5.93	55–93
Family Income			27,023	25,319	0–220,000
Education			11.47	2.75	1–17
Marital Status					
Married	34.11	47			
Unmarried	65.89	138			
Employment Status					
Working	33.98	59			
Non-working	66.02	126			
Region					
South	47.22	98			
Non-South	52.78	87			
Mobility			9.88	17.19	0–83.33
12 Month Anxiety Disorder					
Yes	30.65	51			
No	69.35	134			
12 Month Mood Disorder					
Yes	12.46	25			
No	87.54	160			
Lifetime Suicidal Ideation					
Yes	15.29	29			
No	84.71	155			

Percents and N are presented for categorical variables and Means and Standard Deviations are presented for continuous variables. Percentages are weighted and frequencies are un-weighted.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Table 2

Ordered Logit Regression Analysis of the Correlates of Life Satisfaction among Older African Americans with a Lifetime DSM IV Psychiatric Disorder in the NSAL

	Baseline Model OR (95% CI)	Full Model OR (95% CI)
Gender		
Female	1.00	1.00
Male	1.22(0.70, 2.11)	0.36(0.14, 0.93)*
Age	1.07(1.03, 1.11)***	1.04(1.00, 1.09)
Family Income	1.02(0.95, 1.08)	1.00(0.96, 1.05)
Education	0.92(0.85, 0.99)*	0.95(0.87, 1.03)
Marital Status		
Married	1.38(0.71, 2.68)	0.78(0.23, 2.61)
Unmarried	1.00	1.00
Employment Status		
Working	1.31(0.76, 2.27)	0.64(0.29, 1.40)
Non-working	1.00	1.00
Region		
South	1.15(0.57, 2.32)	1.27(0.64, 2.51)
Non-South	1.00	1.00
Mobility	0.99(0.98, 1.01)	1.00(0.98, 1.01)
Gender X Marital Status	--	5.09(0.92, 28.14)
Gender X Employment	--	3.41(1.05, 11.05)*
Anxiety Disorder		
Yes	--	0.60(0.30, 1.19)
No	--	1.00
Mood Disorder		
Yes	--	0.23(0.11, 0.49)***
No	--	1.00
Suicidal Ideation		
Yes	--	0.34(0.14, 0.80)*
No	--	1.00
N	183	184

Abbreviations: OR, odds ratio; CI, confidence interval.

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$

NIH-PA Author Manuscript
NIH-PA Author Manuscript
NIH-PA Author Manuscript

Table 3

Multinomial Logistic Regression Analysis of the Correlates of Happiness among Older African Americans with a lifetime DSM IV Psychiatric Disorder in the NSAL

	Pretty Happy		Very Happy	
	Baseline Model Model 1 RRR (95% CI)	**Full Model Model 2 RRR (95% CI)**	**Baseline Model Model 3 RRR (95% CI)**	**Full Model Model 4 RRR (95% CI)**
Gender				
Female	1.00	1.00	1.00	1.00
Male	2.09(1.10, 3.99)*	1.03(0.43, 2.43)	3.48(1.57, 7.70)**	0.75(0.22, 2.62)
Age	1.09(1.00, 1.19)*	1.06(0.97, 1.16)	1.18(1.07, 1.31)**	1.13(1.01, 1.26)*
Family Income	1.05(0.88, 1.24)	1.05(0.88, 1.26)	1.15(0.97, 1.37)	1.18(0.98, 1.42)
Education	1.08(0.95, 1.24)	1.06(0.92, 1.23)	0.80(0.70, 0.92)**	0.78(0.68, 0.90)**
Marital Status				
Married	0.80(0.25, 2.53)	0.56(0.17, 1.86)	1.03(0.27, 3.90)	0.16(0.03, 1.00)
Unmarried	1.00	1.00	1.00	1.00
Employment Status				
Working	0.55(0.21, 1.42)	0.52(0.17, 1.61)	0.52(0.14, 1.87)	0.45(0.09, 2.33)
Non-working	1.00	1.00	1.00	1.00
Region				
South	2.23(0.71, 7.04)	2.35(0.62, 8.81)	2.48(0.95, 6.47)	2.69(0.87, 8.32)
Non-South	1.00	1.00	1.00	1.00
Mobility	0.99(0.97, 1.01)	1.00(0.98, 1.01)	0.99(0.96, 1.01)	0.99(0.97, 1.02)
Gender X Marital Status		5.45(1.11, 26.86)*		55.2(5.28, 577.4)**
Anxiety Disorder				
Yes	--	1.03(0.41, 2.60)		0.71(0.23, 2.18)
No	--	1.00		1.00
Mood Disorder				
Yes	--	0.17(0.04, 0.69)*		0.02(0.00, 0.35)**
No	--	1.00		1.00
Suicidal Ideation				
Yes	--	0.81(0.30, 2.15)		0.48(0.08, 3.10)
No	--	1.00		1.00
N	184	183	184	183

Abbreviations: RRR, relative risk ratio; CI, confidence interval.

The category “Not too Happy” is the reference category.

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Table 4

Ordered Logit Regression Analysis of the Correlates of Life Satisfaction among Older African Americans with a Lifetime DSM IV Psychiatric Disorder in the NSAL **(APPENDIX NON-IMPUTED DATA)**

	Baseline Model OR (95% CI)	Full Model OR (95% CI)
Gender		
Female	1.00	1.00
Male	1.43(0.80, 2.56)	0.46(0.17, 1.20)
Age	1.08(1.03, 1.13)**	1.06(0.99, 1.13)
Family Income	1.02(0.95, 1.09)	1.00(0.96, 1.06)
Education	0.90(0.83, 0.98)*	0.93(0.85, 1.01)
Marital Status		
Married	1.44(0.70, 2.99)	0.96(0.28, 3.32)
Unmarried	1.00	1.00
Employment Status		
Working	1.49(0.80, 2.74)	0.60(0.22, 1.63)
Non-working	1.00	1.00
Region		
South	1.03(0.50, 2.13)	1.10(0.54, 2.24)
Non-South	1.00	1.00
Mobility	0.99(0.98, 1.01)	1.00(0.98, 1.01)
Gender X Marital Status		3.76(0.78, 18.25)
Gender X Employment		3.91(1.02, 14.99)*
Anxiety Disorder		
Yes	--	0.60(0.30, 1.19)
No	--	1.00
Mood Disorder		
Yes	--	0.25(0.11, 0.59)**
No	--	1.00
Suicidal Ideation		
Yes	--	0.29(0.14, 0.62)**
No	--	1.00
N	165	165

Abbreviations: OR, odds ratio; CI, confidence interval.

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$

NIH-PA Author Manuscript
NIH-PA Author Manuscript
NIH-PA Author Manuscript

Table 5

Multinomial Logistic Regression Analysis of the Correlates of Happiness among Older African Americans with a lifetime DSM IV Psychiatric Disorder in the NSAL **(APPENDIX NON-IMPUTED DATA)**

	Pretty Happy		Very Happy	
	Baseline Model Model 1 RRR (95% CI)	**Full Model Model 2 RRR (95% CI)**	**Baseline Model Model 3 RRR (95% CI)**	**Full Model Model 4 RRR (95% CI)**
Gender				
Female	1.00	1.00	1.00	1.00
Male	2.42(1.25, 4.69)*	1.31(0.53, 3.28)	4.67(2.01, 10.83)**	1.11(0.32, 3.82)
Age	1.09(0.99, 1.20)	1.06(0.96, 1.16)	1.21(1.08, 1.36)**	1.15(1.01, 1.30)*
Family Income	1.06(0.89, 1.26)	1.06(0.89, 1.26)	1.17(0.99, 1.39)	1.19(0.99, 1.42)
Education	1.09(0.94, 1.26)	1.08(0.93, 1.25)	0.77(0.65, 0.92)**	0.77(0.66, 0.90)**
Marital Status				
Married	0.65(0.20, 2.09)	0.43(0.13, 1.44)	0.93(0.24, 3.70)	0.12(0.01, 1.01)
Unmarried	1.00	1.00	1.00	1.00
Employment Status				
Working	0.55(0.21, 1.44)	0.50(0.17, 1.50)	0.68(0.17, 2.74)	0.53(0.09, 2.99)
Non-working	1.00	1.00	1.00	1.00
Region				
South	2.29(0.71, 7.34)	2.32(0.61, 8.86)	2.83(1.06, 7.54)*	2.93(0.94, 9.11)
Non-South	1.00	1.00	1.00	1.00
Mobility	0.99(0.98, 1.01)	0.99(0.98, 1.01)	0.99(0.97, 1.01)	0.99(0.97, 1.02)
Gender X Marital Status		5.75(1.18, 27.99)*		64.7(4.57, 915.6)**
Anxiety Disorder				
Yes	--	1.33(0.50, 3.53)		0.98(0.30, 3.22)
No	--	1.00		1.00
Mood Disorder				
Yes	--	0.25(0.06, 1.00)*		0.03(0.00, 0.53)*
No	--	1.00		1.00
Suicidal Ideation				
Yes	--	0.68(0.26, 1.77)		0.35(0.06, 2.16)
No	--	1.00		1.00
N	164	164	164	164

Abbreviations: RRR, relative risk ratio; CI, confidence interval.

The category “Not too Happy” is the reference category.

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$