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The Characteristics of Anxiety and Depression Symptom Severity in Older Adults Living in Public Housing

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Abstract

Background—Anxiety and depression are common in older adult public housing residents and frequently co-occur. To more fully understand anxiety and depression in this socioeconomically disadvantaged population, this study relies on the Social Antecedent Model of Psychopathology to characterize anxiety and depression symptoms concurrently.

Methods—190 public housing residents aged 60 years and older in Rochester, NY, participated in a research interview during which they reported on variables across the six stages of the Social Antecedent Model. GAD-7 and PHQ-9 assessed anxiety and depression symptoms, respectively.

Results—In these older adult residents, anxiety and depression symptom severity scores were correlated ($r = 0.61$; $p < 0.001$). Correlates of anxiety and depression symptom severity were similar for both outcomes and spanned the six stages of the Social Antecedent Model. Multivariate linear regression models identified age, medical comorbidity, mobility, social support, maladaptive coping, and recent life events severity as statistically significant correlates. The regression models accounted for 43% of anxiety and 48% of depression symptom variability.

Conclusions—In public housing residents, late-life anxiety and depression symptoms were moderately correlated. Anxiety symptom severity correlates were largely consistent with those found for depression symptom severity. The broad distribution of correlates across demographic, social, medical, and behavioral domains suggests that the context of late-life anxiety and depression symptomatology in public housing is complex and that multidisciplinary collaborative care approaches may be warranted in future interventions.

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Description of Authors' Roles

A. Simning collected the data, conducted the data analyses, and wrote the article. Y. Conwell, T.M. Richardson, S.G. Fisher, and E. van Wijngaarden contributed to the design of the study, helped guide data analyses, and assisted with writing the article.

Conflict of Interest
None.

Keywords

African American; urban health; correlates; social factors

Introduction

In the United States, nearly one million older adults live in public housing (Burke, 1998). People who have low incomes (income requirements vary by locale) and qualify as disabled, elderly, or as a family are eligible for public housing (U.S. Department of Housing and Urban Development, 2011). Older adults living in public housing experience unique stressors as they tend to have limited incomes, live alone, are poorly educated, and have high levels of medical comorbidity and functional impairment (Black *et al.*, 1997; Rabins *et al.*, 1996). Furthermore, the prevalence of mental illness is 1.4 to 2.2 times higher in public housing residents than in other community-dwelling adults (Rabins *et al.*, 1996; Simning *et al.*, 2010), with 37% of older adult residents having a need for mental health care (Black *et al.*, 1997). Anxiety and depression in older adult public housing residents appear to be highly comorbid (Simning *et al.*, 2011), and their comorbidity has been associated with higher levels of disability, more severe psychiatric symptoms, longer recovery times, more medical services utilization, and greater suicide risk (Stein, 2001).

Late-life anxiety and depression are complex constructs with dozens of possible correlates, many of which are common to both psychopathologies (Vink *et al.*, 2008). When possible, anxiety and depression should be studied concurrently as anxiety and depression are highly associated constructs (Beuke *et al.*, 2003). Examining anxiety and depression concurrently can help differentiate specific aspects of anxiety and depression (Beuke *et al.*, 2003) and may be informative to future intervention studies. For example, if the correlates of anxiety symptom severity are highly similar with depression symptom severity, then intervention and prevention efforts in this setting that target one condition may positively impact the other as well. If there are substantial differences between their correlates, however, then knowledge of the correlates specific to anxiety as well as the correlates specific to depression could inform intervention efforts seeking to target either anxiety or depression in this setting.

Late-life anxiety and depression assessment has been hampered because much research to date has been atheoretical (Magai *et al.*, 2003). That is, researchers often focus on defining risk correlates without attempting to incorporate them into an overarching theoretical framework. In contrast to an atheoretical approach, some researchers have relied on the Social Antecedent Model of Psychopathology to characterize and understand late-life mental illness (Cohen *et al.*, 2008; Cohen *et al.*, 2006; Robison *et al.*, 2009).

The Social Antecedent Model is a theoretical multi-stage model designed to explain psychopathology in which each higher model stage is hypothesized to represent an increasingly proximal set of mental illness risk correlates (George, 1989). The first stage evaluates demographic factors. The second and third stages examine early (e.g., education) and later (e.g., marital status) achievements and events. The fourth stage assesses social integration factors such as community engagement, religious involvement, and neighborhood stability. The fifth stage considers vulnerability and protective factors. Protective factors are posited to be various types of social support, whereas vulnerability factors may cover medical comorbidity, financial strain, and caregiving responsibility, among others. The sixth and most proximate stage to psychopathology includes provoking agents and coping efforts (George, 1989). Applying this framework facilitates a comprehensive examination of the demographic, social, medical, and behavioral correlates

of late-life psychopathology. Most studies applying this framework have only examined either anxiety (Cohen *et al.*, 2006) or depression (Magai *et al.*, 2003; Robison *et al.*, 2009) in isolation, and late-life anxiety and depression have yet to be examined concurrently in this framework.

In public housing, correlates of late-life mental illness span many of the Social Antecedent Model's stages and include age (Stage 1), gender (Stage 1), race (Stage 1), education (Stage 2), marital status (Stage 3), public housing residency duration (Stage 4), physical illness (Stage 5), social distress (Stage 5), stressful life events (Stage 6), and fewer leisure activities (Stage 6) (Rabins *et al.*, 1996; Robison *et al.*, 2009). In older adult public housing residents, the Social Antecedent Model accounted for 35% to 57% of major depressive disorder variability in one study (Robison *et al.*, 2009). The Social Antecedent Model therefore appears well-suited for characterizing mental illness in this socioeconomically distressed population.

Although the correlates of late-life anxiety and depression symptom severity have been well described in the literature, there is considerable heterogeneity across study samples (Vink *et al.*, 2008), and anxiety and depression are infrequently examined concomitantly within a theoretical framework. Consequently, characterizing anxiety and depression symptom severity concurrently within the Social Antecedent Model framework is needed to help us better understand the comorbidity of anxiety and depression in public housing residents. A more complete understanding of the anxiety and depression symptom severity correlates specific to this socioeconomically disadvantaged population may better guide mental health interventions targeting symptomatic residents of public housing or similar low-income congregate living settings. To this end, we used bivariate and multivariate analyses to identify and compare the correlates of late-life anxiety and depression symptom severity in public housing residents.

Methods

Setting and Participants

From May 2009 through June 2010 we conducted a cross-sectional study within four public housing high-rises designated for adults aged 50 years and older in Rochester, NY. The four public housing high-rises housed 553 residents with a median age of 64 years. Fifty-three percent of the residents were women, 75% were non-Hispanic, and 61% were black.

The University of Rochester Human Subjects Review Board approved this study, which occurred in two phases. In Phase 1, public housing residents received a series of mailings (in English and Spanish) and had the opportunity to participate in onsite educational and recruitment activities. The primary purpose of Phase 1 was to engage residents in the study, provide data across demographic groups, and facilitate recruitment into Phase 2's psychiatric research interview. During Phase 1 residents had the opportunity to complete a brief health questionnaire. Residents returned completed questionnaires to an onsite recruitment booth and received \$5. Phase 1 had no exclusion criteria and 358 participants completed the questionnaire (65% response rate). On the questionnaire residents indicated their willingness to participate in the Phase 2 psychiatric research interview.

In Phase 2, English-speaking residents aged 60 years and older with capacity to provide informed consent were eligible to participate in a 1.5 hour psychiatric research interview. We interviewed residents aged 60 years and older to be consistent with a prior public housing study (Rabins *et al.*, 1996). Capacity to provide informed consent was evaluated with questions that assessed the participants' understanding of the study. We did not use

proxy informants. The interview examined characteristics spanning mental health, physical health, and social domains. Phase 2 participants received \$25.

In total, 190 (180 non-Hispanic and 10 Hispanic) residents participated in the Phase 2 interview. We interviewed 180 (62%) of an estimated 292 non-Hispanic residents who were eligible. Among non-Hispanic Phase 2 eligible residents, interview participants were younger than the 112 non-responders (66 vs. 72 years, respectively; Mann-Whitney Test: $z = 3.749$, $p < 0.001$), but did not differ by gender or race. Eighty-nine Hispanic residents aged 60 years and older also lived in the high-rises, of whom 43 completed the Phase 1 health questionnaire. Only 13 of these 43 responders could speak English, however, and we interviewed 10 of these Hispanic residents. For the remaining 46 Hispanic residents, English-speaking status was unknown.

Anxiety and Depression

The GAD-7 is a seven-item anxiety scale scored from 0 to 21. A score of 10 or greater has a sensitivity of 68% and specificity of 88% for detecting generalized anxiety, posttraumatic stress, panic, and social anxiety disorders as compared to a structured psychiatric interview conducted by mental health professionals (Kroenke *et al.*, 2007). The PHQ-9 is a nine-item depression scale scored from 0 to 27. A score of 10 or greater has been reported to have both a sensitivity and specificity equal to 88% for detecting major depression as compared to a structured psychiatric interview conducted by mental health professionals (Kroenke *et al.*, 2001).

Social Antecedent Model of Psychopathology Independent Variables

We examined late-life anxiety and depression symptom severity correlates that spanned the six stages of the Social Antecedent Model of Psychopathology.

Stage 1, Demographics—The demographics stage consisted of self-reported information on age, gender, and race. We did not examine ethnicity because there were few English-speaking Hispanic participants ($n = 10$) and it is uncertain how representative these participants are of the other non-English-speaking Hispanic residents.

Stage 2, Early Events and Achievement—We examined education status (high school degree/GED; yes/no) and whether the participant lived in a two-parent household during the first five years of life (yes/no) (Magai *et al.*, 2003).

Stage 3, Later Events and Achievement—The variables included in this stage were marital status (married; yes/no) and living arrangement (lived alone; yes/no).

Stage 4, Social Integration—The social integration stage considers a person's environmental context (e.g., neighborhood stability) and attachment to social structures (e.g., religious affiliation). We evaluated the time in years a participant had lived in the high-rises, as well as a participant's organizational religiosity and social engagement. Organizational religiosity was assessed with two six-item questions from the Brief Multidimensional Measure of Religiosity/Spirituality (e.g., attendance at places of worship) (Fetzer Institute N. I. A. Working Group Report, 1999). Total organizational religiosity scores ranged from 2 to 12 with higher scores representing increased religiosity. The social engagement scale is a nine-item, yes/no scale scored from 0 to 9 that assessed participation in the wider community and contact with people outside the immediate household (Ramsay *et al.*, 2008); we modified the question on writing a personal letter to also examine writing personal emails in the last week.

Stage 5, Vulnerability and Protective Factors—We examined eight variables that were presumed to predispose an individual to anxiety and/or depression. We included activities of daily living (ADLs) and instrumental activities of daily living (IADLs); ADLs and IADLs impairments were coded as present or absent with total scores ranging from 0 to 6 and 0 to 8, respectively. The Mini-Cog, used to evaluate cognitive impairment, has comparable sensitivity (99%) and specificity (93%) to the Mini-Mental Status Exam for detecting probable dementia (Borson *et al.*, 2000). A list of medical conditions (adapted from the Minimum Data Set (Centers for Medicare & Medicaid Services, 2000)) was used to examine medical comorbidity severity. The Life-Space Assessment assessed mobility within an individual's home, immediate surroundings, neighborhoods, towns, and beyond with a total score ranging from 0 to 120 (Peel *et al.*, 2005). The Multidimensional Scale of Perceived Social Support characterized perceived social support from family, friends, and significant others with 12 questions; the total score ranged from 12 to 84 (Zimet *et al.*, 1988). Lastly, we asked participants how safe they felt in the apartment complex, which was rated from 1 (not safe) to 5 (very safe).

Stage 6, Provoking Agents and Coping Efforts—This stage included measures of recent life events and an individual's coping strategies. The Brief COPE evaluated coping and has 14 two-item subscales (Carver, 1997). Based on adaptive and maladaptive coping research (Carver, 1997; Lunsford *et al.*, 2006), we grouped the 14 coping subscales into adaptive coping (planning, using instrumental support, positive reframing, acceptance, religion, using emotional support, humor, active coping) and maladaptive coping (venting, behavioral disengagement, denial, self-distraction, self-blame, substance use). We summed the responses to create adaptive and maladaptive coping summary scores that ranged from 0 to 48 and 0 to 36, respectively. We modified the Louisville Older Persons Events Scale (Murrell *et al.*, 1984) to characterize negative life events within the three months preceding the interview. The subjective impact of the worst reported event was assessed with three questions concerning 1) the amount of change attributed to the event, 2) how bad the event was, and 3) how much it has been on the participant's mind. The summary score ranged from 0 to 9; higher scores represent a greater impact of the event.

Statistical Analyses

Bivariate analyses examined the association of anxiety and depression symptom severity with each other and with independent variables spanning the six stages of the Social Antecedent Model. Since many of the variables were not normally distributed, we used non-parametric tests of significance in these bivariate analyses. Specifically, the Spearman correlation coefficient evaluated continuous independent variables (e.g., mobility score) and the Mann-Whitney test compared symptom severity between two groups, while the Kruskal Wallis test compared symptom severity across three or more groups. To characterize the amount of anxiety and depression symptom severity variability accounted for by the covariates, we included covariates with a p-value of 0.10 or less (based on the bivariate analyses) in simple linear regression models with anxiety symptom severity and depression symptom severity as the dependent variables. The multivariate linear regression models used a stepwise selection method with an entry and stay p-value of 0.10. We conducted our analyses with SAS statistical software version 9.2 (SAS Institute, Inc., Cary, NC).

Results

Anxiety and Depression Symptom Severity Bivariate Analyses

The correlation between anxiety and depression symptom severity was 0.61 ($p < 0.001$). There were many anxiety and depression symptom severity correlates spanning the six stages of the theoretical framework. Continuous variables that were significantly associated

with either anxiety or depression symptoms had correlation coefficients between 0.16 and 0.49 (Table 1). The first four stages yielded few correlates, most of which had relatively weak associations. Table 1 also provides information from unadjusted linear regression for variables with a p-value of 0.10 or less, and variables in the first four stages accounted for 1% to 9% of anxiety and depression symptom variability. Stage 5, the vulnerability and protective factors stage, yielded the most correlates, some of which were highly associated with anxiety and depression symptom severity. In particular, ADLs, IADLs, and medical comorbidity were among the strongest correlates and accounted for between 5% to 12% of anxiety variability and 6% to 25% of depression variability. Medical comorbidity, however, was more closely associated with depression ($r = 0.49$) than with anxiety ($r = 0.30$) symptoms. In Stage 6, the coping strategies and recent life events stage, maladaptive coping mechanisms and more severe life events were associated with symptom severity of both anxiety and depression. The negative subjective impact of recent life events accounted for 27% of anxiety symptom variability and 21% of depression symptom variability.

Anxiety and Depression Symptom Severity Multivariate Regression Analyses

The anxiety symptom severity linear regression model using stepwise selection resulted in a pattern of correlates that was similar to that found in the depression symptom severity linear regression model (Table 2). In both models younger age, more medical illnesses, less mobility, less social support, more reliance on maladaptive coping mechanisms, and more severe recent life events were associated with worse symptom severity. The multivariate linear regression models accounted for 43% of late-life anxiety symptom variability and 48% of late-life depression symptom variability.

Discussion

Older adults living in public housing suffer from complex socioeconomic disadvantages that may place them at-risk for late-life mental illness. The study participants examined here often had limited educational attainment and high levels of medical comorbidity and functional impairment, characteristics that may increase the residents' risk for both late-life anxiety and depression (Vink *et al.*, 2008). Congruent with the complex context of mental illness in public housing, the correlates of anxiety symptom severity and depression symptom severity spanned the Social Antecedent Model's six stages and overlapped considerably. In support of our theoretical framework, Stages 5 and 6 contained the variables that were the most highly correlated with anxiety and depression severity. Our findings expand upon previous work that showed that late-life major depression was associated with younger age (Stage 1), more physical health diagnoses (Stage 5), and more social distress (Stage 5) in blacks (Robison *et al.*, 2009). In our multiple linear regression models, correlates included age (Stage 1), medical comorbidity (Stage 5), mobility (Stage 5), social support (Stage 5), maladaptive coping (Stage 6), and recent life events severity (Stage 6).

Overall, the regression models applying this framework accounted for nearly half of the observed variability in symptom severity of anxiety as well as depression. These levels are comparable to the Social Antecedent Model's performance in another study examining major depression variability among older public housing residents (Robison *et al.*, 2009). In contrast, in a study that did not include medical illness or functional impairment, the Social Antecedent Model framework accounted for only 19% to 21% of late-life depression variance (Magai *et al.*, 2003). The exclusion of these health indicators may have partially contributed to the relatively worse performance of the Social Antecedent Model as medical illness and functional impairments can be important predictors of late-life depression (Vink *et al.*, 2008). After removing ADLs, IADLs, and medical comorbidities from our regression analyses, however, our models were still able to account for 41% of anxiety symptom

variability and 39% of depression symptom variability (analyses not shown). This finding suggests that the demographic and socioeconomic circumstances are highly relevant for understanding both anxiety and depression symptom severity in older adults living in public housing.

There are subtle differences between the correlates of anxiety symptom severity and depression symptom severity among public housing residents. Our findings indicate that – more so than with anxiety symptoms – IADLs and medical comorbidity explained a larger amount of depression symptom severity variability. This stronger relationship between late-life depression symptoms and functional impairment and medical comorbidity is largely consistent with a recent review suggesting that, relative to late-life anxiety, depression is more likely if an older adult has functional limitations, chronic illnesses, and cognitive impairment (Vink *et al.*, 2008).

The similarity of anxiety symptom severity correlates with depression symptom severity correlates in older adult public housing residents has important implications. First, in addition to the typical functional impairment indices (e.g., ADLs, IADLs), researchers should also consider examining mobility, social support, and coping skills in studies of late-life anxiety and depression in socioeconomically disadvantaged older adults. In medically and socially stressed older adults, our study suggests that these less medically focused measures can help capture much of the observed variability in anxiety and depression symptom severity. Second, our results indicate that physical illness, poor coping skills, and low social support are associated with worse symptom severity of both anxiety and depression; all of which have been previously linked with anxiety and depression (Vink *et al.*, 2008). Since the correlates of anxiety symptoms overlap so highly with those of depression symptoms, it follows that interventions in this setting targeting anxiety may also address depression (and vice versa). For example, there are many social support interventions that have been examined (Cattan *et al.*, 2005), and conducting such an intervention (e.g., connecting residents with a volunteer program) may have the potential to improve both anxiety and depression in older adult public housing residents.

The study has some limitations. First, the sample was from a single geographic location and reflected a better response from non-Hispanics and younger residents, which may limit its generalizability. Study participation was relatively strong among non-Hispanic and blacks, however, which is relevant because only 19% of public housing residents nationally are Hispanic while 47% are non-Hispanic black (Burke, 1998). Second, this study is cross-sectional, which precludes our ability to characterize cause-and-effect relationships between symptoms of late-life mental illness and sample characteristics. Many of the correlates revealed in our study, however, have been previously identified as risk factors in longitudinal studies (Vink *et al.*, 2008) and are stable over time, which lends support that these correlates may contribute to late-life anxiety symptoms and depression symptoms in the public housing setting. Third, our analyses focused on anxiety and depression symptoms rather than disorders per se, and so the correlates we observed may not apply to affective and anxiety disorder diagnoses. Nonetheless, there is an increasing emphasis on dimensional (e.g., symptom severity) measures of psychopathology because they can better represent the spectrum of illness and improve the ability of researchers to examine associated characteristics (Kraemer, 2007). Fourth, non-response was estimated to be about 40% and we had limited information on study non-responders, which weakened our ability to characterize them and examine potential response bias. Fifth, although there are strict income requirements for public housing residents, we did not assess the financial security of study participants and are therefore unable to examine the association of perceived financial strain with anxiety and depression symptom severity. Sixth, our analyses did not distinguish between participants with and without cognitive impairment, which could influence the

association of participant characteristics with anxiety and depression symptom severity. Residents with moderate-to-severe cognitive impairment, however, were unlikely to have participated in this study because: 1) participants had to have the capacity to provide informed consent, 2) we did not use proxy informants, and 3) the public housing residents had to be able to live independently. When excluding residents with cognitive impairment, the bivariate point estimates were largely similar (data not shown). Lastly, we did not adjust for multiple comparisons in our analyses, which increases the possibility of Type I Error. However, adjusting for multiple comparisons can be overly conservative (e.g., increase Type II Error risk) (Perneger, 1998), our covariates were selected based on *a priori* evidence, and our findings were generally consistent with previous studies.

To our knowledge, this is the first time that late-life anxiety and depression symptom severity in public housing residents have been examined concurrently within a theoretical framework. In this setting, late-life anxiety and depression symptom severity were moderately correlated, with both sharing correlates in the demographic, social, medical, and behavioral domains. The extent to which late-life anxiety and depression symptom severity correlates overlapped in these residents suggests that interventions targeting either anxiety or depression in the public housing high-rises (and possibly other congregate living facilities for low-income older adults) could benefit both endpoints. The broad distribution of correlates also suggests that multidisciplinary collaborative care approaches may be needed for addressing late-life anxiety and depression in these residents. For example, more closely linking the in-home services (e.g., 19% of participants received home health aide, visiting nursing, meal delivery, or homemaker services) and social services (e.g., 43% of participants recently received assistance from the onsite social workers) that assist some of these older adults with the primary care and behavioral health networks may help alleviate anxiety and depression in this population. Such integration of service providers is likely necessary as the context of mental illness in public housing appears to be complex and not limited to a single services domain.

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Table 1
Anxiety and depression symptom severity correlates within the Social Antecedent Model of Psychopathology Framework

Stage	Anxiety				Depression			
	N	Spearman Correlation or Median (Mean) Anxiety Severity	p Value ^a	Unadjusted R ² ^b	Spearman Correlation or Median (Mean) Depression Severity	p Value ^a	Unadjusted R ² ^b	
I. Demographics								
Age	190	-0.256	<0.001	0.086	-0.248	<0.001	0.060	
Gender								
Female	110	2 (3.2)	0.101	N/A	5 (5.5)	0.024	0.014	
Male	80	1 (2.6)			3 (4.5)			
Race ^c			0.096	0.014		0.159	N/A	
Black	152	1 (2.7)			4 (5.0)			
White	21	2 (3.6)			6 (6.1)			
Other	17	2 (4.2)			5 (5.1)			
II. Early Events and Achievement								
Two-Parent			0.244	N/A		0.676	N/A	
Home								
Yes	128	1 (2.8)			4 (5.0)			
No	62	2 (3.4)			5 (5.3)			
High School			0.214	N/A		0.197	N/A	
Degree/GED								
Yes	100	2 (3.5)			5 (5.5)			
No	90	1 (2.4)			4 (4.7)			
III. Later Events and Achievement								
Lives Alone			0.791	N/A		0.332	N/A	
Yes	174	2 (3.0)			4 (5.2)			
No	16	1 (2.3)			3.5 (3.9)			
Married			0.619	N/A		0.078	0.022	
Yes	34	2 (3.5)			5.5 (6.4)			
No	156	1 (2.9)			4 (4.8)			
IV. Social Integration								

Stage	Anxiety				Depression			
	N	Spearman Correlation or Median (Mean) Anxiety Severity	p Value ^a	Unadjusted R ² ^b	Spearman Correlation or Median (Mean) Depression Severity	p Value ^a	Unadjusted R ² ^b	
Length of Time in Building	190	-0.180	0.013	0.032	-0.138	0.057	0.021	
Organizational Religiosity	190	-0.030	0.685	N/A	-0.029	0.693	N/A	
Social Engagement	190	0.061	0.400	N/A	0.023	0.753	N/A	
V. Vulnerability and Protective Factors								
ADLs	190	0.242	<0.001	0.059	0.317	<0.001	0.061	
IADLs	190	0.267	<0.001	0.053	0.387	<0.001	0.088	
Dementia			0.313	N/A		0.264	N/A	
Screen Positive								
Yes	51	1 (2.3)			4 (4.5)			
No	137	2 (3.2)			4 (5.3)			
Medical Comorbidity	190	0.301	<0.001	0.116	0.490	<0.001	0.254	
Mobility	190	-0.204	0.005	0.037	-0.262	<0.001	0.071	
Perceived Social Support	190	-0.161	0.027	0.035	-0.197	0.006	0.048	
Perceived Safety	190	-0.269	<0.001	0.043	-0.104	0.154	N/A	
VI. Provoking Agents and Coping Efforts								
Coping: Adaptive	190	-0.017	0.819	N/A	-0.015	0.838	N/A	
Coping: Maladaptive	190	0.304	<0.001	0.106	0.283	<0.001	0.088	
Life Events Score	190	0.483	<0.001	0.272	0.426	<0.001	0.210	

Notes: N/A means not applicable.

^a p values determined by Mann-Whitney or Kruskal-Wallis Tests for variables with median values and the Spearman correlation coefficient for continuous variables.

^b Only variables with a p-values < 0.10 (based on bivariate analyses) were included in these unadjusted linear regression models.

^c Race considered as either black or non-black in the unadjusted linear regression models.

Table 2

Anxiety and depression symptom severity multivariate linear regression models with stepwise selection

Stage	Estimate	Standard Error	p Value ^a	Intercept	Mallow's Cp	Adjusted R ²
Anxiety^b				11.273	5.428	0.425
I. Demographics						
Age	-0.103	0.034	0.003			
V. Vulnerability and Protective Factors						
Medical Comorbidity	0.169	0.077	0.029			
Mobility	-0.028	0.014	0.048			
Perceived Social Support	-0.055	0.018	0.002			
VI. Provoking Agents and Coping Efforts						
Coping: Maladaptive	0.163	0.046	<0.001			
Life Events Score	0.514	0.081	<0.001	11.694	4.376	0.475
Depression^c						
I. Demographics						
Age	-0.084	0.037	0.025			
III. Later Events and Achievement						
Marital Status (Yes vs. No)	1.18	0.606	0.0527			
V. Vulnerability and Protective Factors						
Medical Comorbidity	0.453	0.085	<0.001			
Mobility	-0.034	0.015	0.030			
Perceived Social Support	-0.070	0.020	<0.001			
VI. Provoking Agents and Coping Efforts						
Coping: Maladaptive	0.168	0.050	0.001			
Life Events Score	0.441	0.089	<0.001			

^aNotes: Only variables with a p-value < 0.10 (based on bivariate analyses) were included in the linear regression model that applied a stepwise selection method (entry and stay p-value of 0.10); n = 190.

^bp values were based on the full multivariate model and were generated using t values with 1 degree of freedom.

^cThe anxiety linear regression model fit statistics for each step are as follows (R², Mallow's Cp): Step 1 (Life Events Score added): 0.272, 43.608; Step 2 (Coping: Maladaptive added): 0.317, 31.576; Step 3 (Medical Comorbidity added): 0.360, 19.889; Step 4 (Perceived Social Support added): 0.391, 12.086; Step 5 (Age added): 0.412, 7.372; Step 6 (Mobility added): 0.425, 5.428. Intercept estimate (standard error) is 11.273 (3.071).

^cThe depression linear regression model fit statistics for each step are as follows (R^2 , Mallows' Cp): Step 1 (Medical Comorbidity added): 0.254, 67.425; Step 2 (Life Events Score added): 0.367, 33.088; Step 3 (Coping: Maladaptive added): 0.404, 20.299; Step 4 (Perceived Social Support added): 0.441, 9.825; Step 5 (Marital Status added): 0.452, 8.095; Step 6 (Age added): 0.461, 7.079; Step 7 (Mobility added): 0.475, 4.376. Intercept estimate (standard error) is 11.694 (3.371).